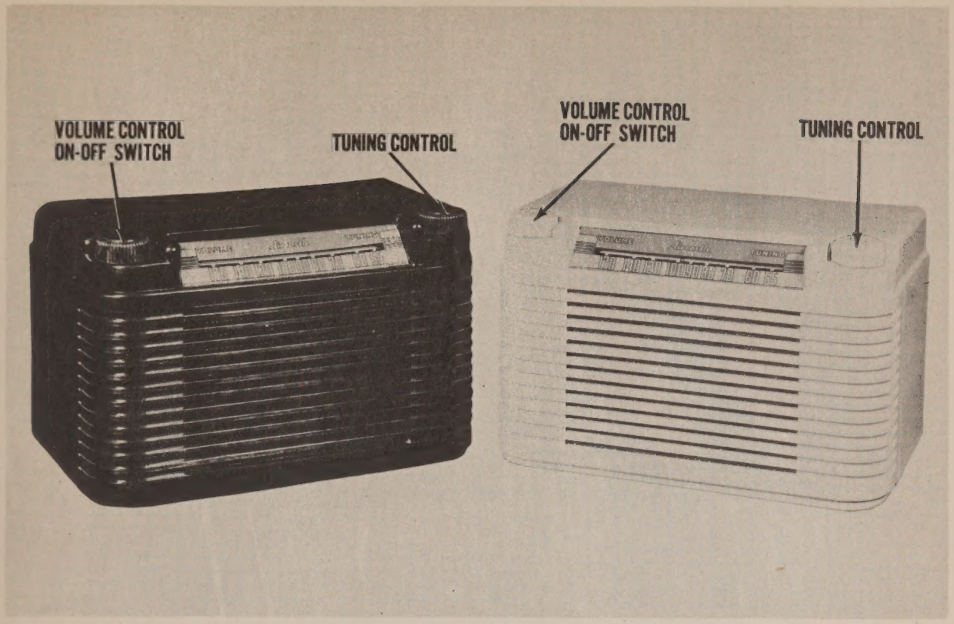

AIRCASTLE
MODELS 5003, 5004, 5005, 5006

AIRCASTLE
MODELS 5003, 5004, 5005, 5006

AIRCASTLE MODEL 5003

TRADE NAME	Aircastle, Models 5003, 5004, 5005, 5006
SUPPLIER	Spiegel, Inc., 1061 W. 35th St., Chicago, Ill.
TYPE SET	AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types, 12K7GT RF Amp., 12SA7 Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	530-1720KC RATING .240 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to stator of large section of tuning cap. Low side to B-.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	.1 MFD.	"	1720KC	"	"	A5	Adjust for maximum output.
3	200MMFD	High side to ext ant. lug. Low side to B-.	1400KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

AIRCASTLE MODEL 5003, 5004, 5005, 5006

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: AIRCASTLE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SK7GT	12SK7GT	8N	
2	Converter	12SA7	12SA7	8R	
3	IF Amp.	12SK7GT	12SK7GT	8N	
4	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
5	Power Output	50L6GT	50L6GT	7AC	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AIRCASTLE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	EC-10	PRSA150-40-40	BRD4415	2N511	M-2x40-150	TA-440	Filter - Red
B	40	150							" - "
7	.05	400	PC-5	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
8	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
9	.005	400	PC-10	484-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
10	.005	400	PC-10	484-005	DT6D5	TP408	S-6-005	TC-25	"
11	.05	400	PC-5	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
12	.1	400	PC-8	484-.1	DT4F1	TP428	S-4-1	TC-1	Line Isolation
13	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	Ext. Ant. Coupling
14	500	500	MC-5	1468-0005	5W5T5	MC245	MO.5-35	1FM-35	Audio Plate Bypass
15	100	500	MC-2	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Diode Filter
16	50	500	MC-4	1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
17	100	500	MC-2	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	RF Coupling

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18A	1 Meg.	1		MK402	D13-137	AM-63-Z	Volume Control
B	Shaft			Not Req.	E	KSS-3	Attach to 18A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

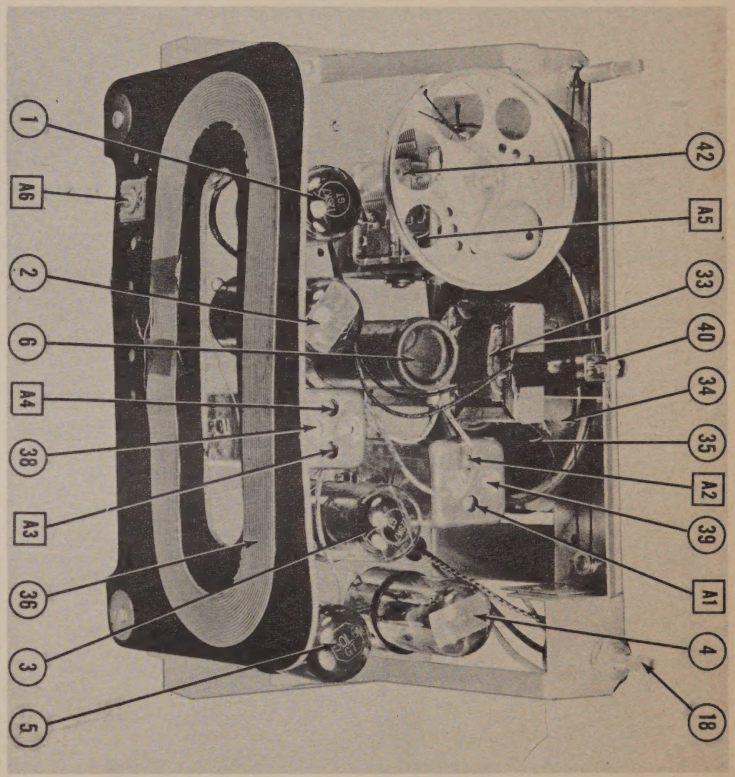
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AIRCASTLE PART No.	IRC PART No.	IDENTIFICATION CODES
19	220KΩ	½	1R-20	BTS-220K	Red-Red-Yl. Line Isolation
20	2200Ω	2	1R-22	BT-2-2200	Red-Red-Red RF Plate Load-See Note 1
21	51KΩ	½	1R-10	BTS-47K	Grn.-Br.-Or. Converter Grid
22	22KΩ	½	1R-9	BTS-22K	Red-Red-Or.-Oscillator Grid
23	3.3 Meg.	½	1R-23	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
24	51KΩ	½	1R-10	BTS-47K	Grn.-Br.-Or. Diode RF Filter
25	2 Meg.	½	1R-13	BTS-2.2 Meg.	Red-Blk.-Grn. AF Grid
26	470KΩ	½	1R-11	BTS-470K	Yl.-Vi.-Yl. AF Plate Load
27	470KΩ	½	1R-11	BTS-470K	Yl.-Vi.-Yl. Output Grid
28	150Ω	½	1R-14	BW-½-150	Br.-Grn.-Br. Output Cathode
29	2200Ω	2	1R-25	BTA-2200	Red-Red-Red Filter
30	82Ω	2	1R-35	BW-2-82	Gray-Red-Blk. Surge Limiter
31	33Ω	2		BW-2-33	Or.-Or.-Blk. Pilot Light Shunt
32	90Ω	4		ABA-100	Line Dropping-See Note 2

Note 1-Some models use 3900Ω in this application. IRC replacement BT-2-3900.
Note 2-On IRC replacement set slider at 90Ω from one end.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: AIRCASTLE PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
33	6400Ω	3.1Ω	250Ω	.4Ω	Part of SPK-5	A-3878*	T22S46*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: AIRCASTLE PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105†		†Drill and tap magnet frame.
34	PM	3.1Ω	SPK-5	Mod. P5-X		
	CONE DIA.	VC DIA.				
35	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

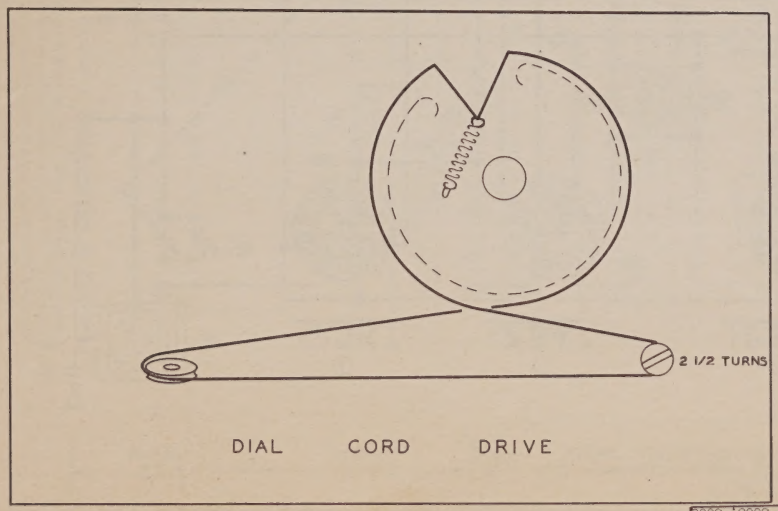
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: AIRCASTLE PART No.	MEISSNER PART No.
36	Loop Ant.	.1Ω	1.5Ω	LL-1	
37	Osc. Coil	.7Ω	7Ω	LO-9	14-1040
38	Input IF	19Ω	19Ω	LI-1	16-6658
39	Output IF	20Ω	19Ω	LI-2	16-6660

DIAL LIGHT

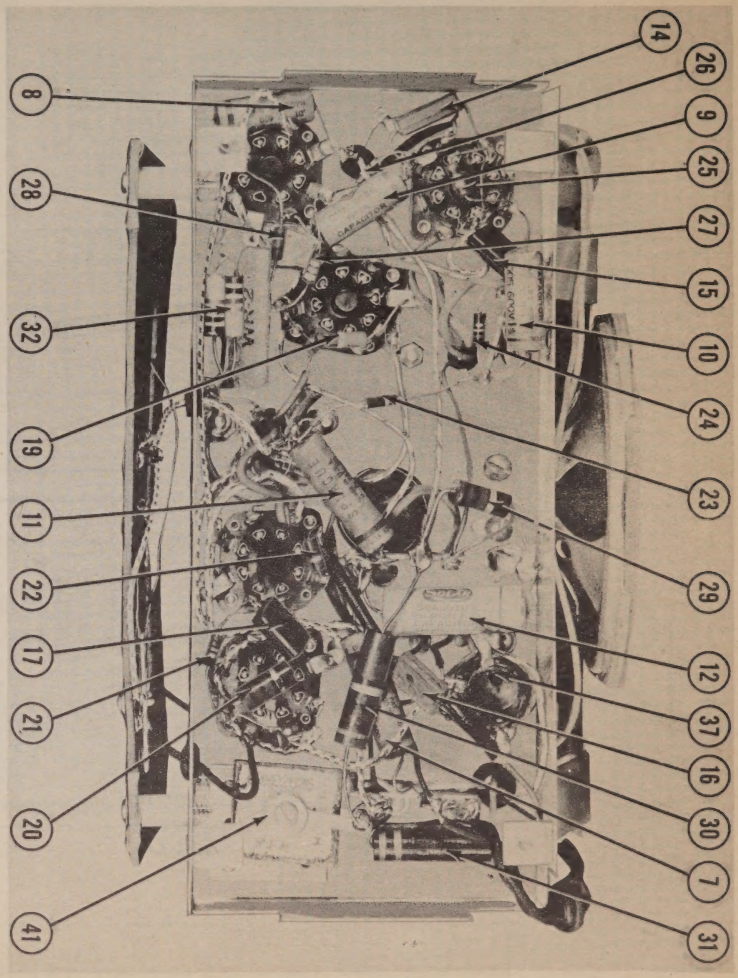
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: AIRCASTLE PART No.		INSTALLATION NOTES
40	Bayonet	6-8	0.15	Brown	PB-1		Type 47

MISCELLANEOUS

ITEM No.	PART NAME	AIRCASTLE PART No.	NOTES
41	Rectifier	SR-1	Selenium
42	2 Gang Var. Cap.	GC-2	8-368 MMF, 29-194 MMF
A5	Trimmer	TC-6	Osc. Trimmer
A6	"	TC-7	Ant. Trimmer

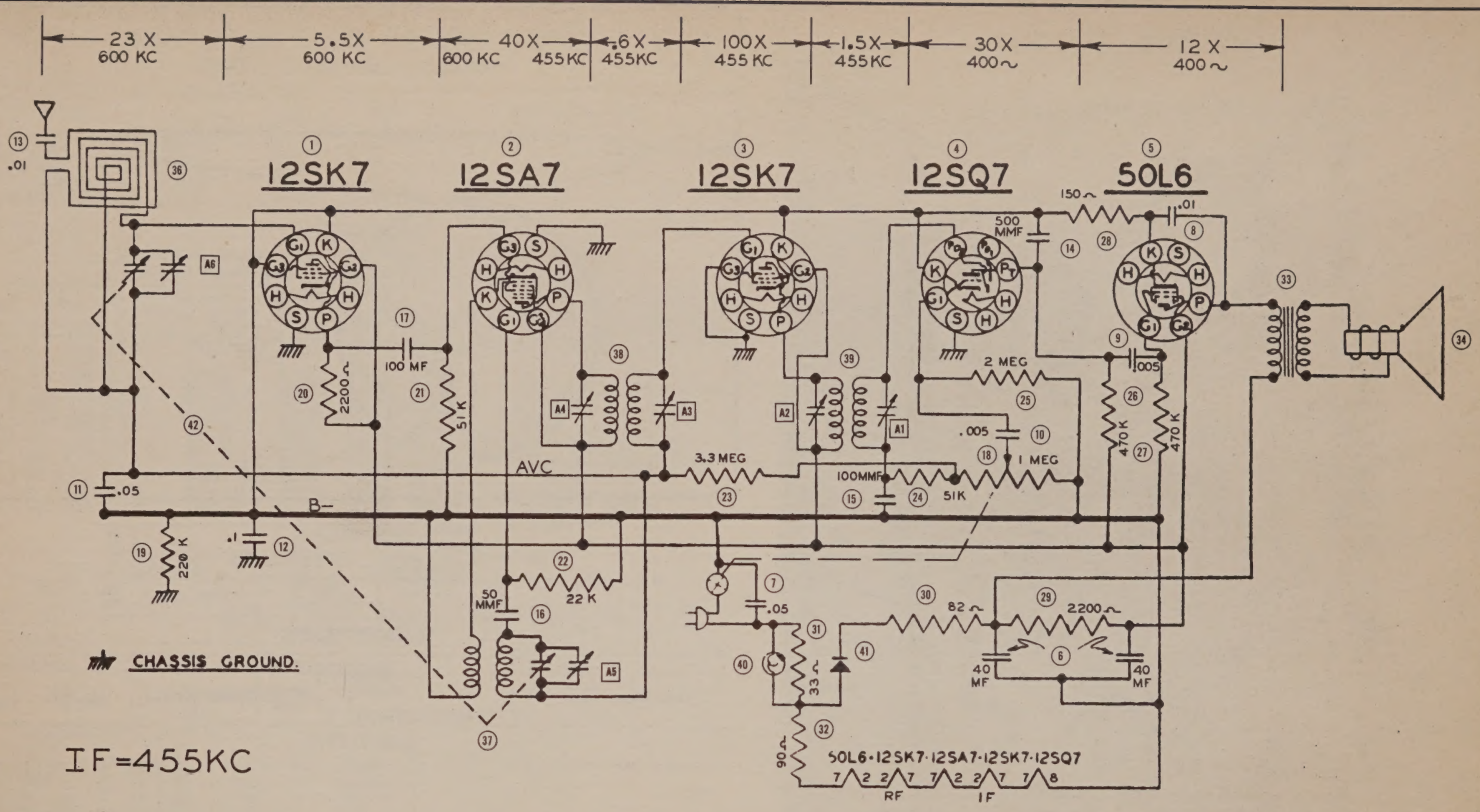


CHASSIS—BOTTOM VIEW



AIRCASTLE MODEL 5003, 5004, 5005, 5006

AIRCASTLE MODEL 5003, 5004, 5005, 5006



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7 GT	0 V.	48V. AC	0 V.	-1 V. DC	0 V.	66V DC	36V. AC	50V. DC
2	12SA7	0 V.	24V. AC	66V. DC	66V. DC	-4.2VDC	0 V.	36V. AC	-.16V. DC
3	12SK7 GT	0 V.	24V AC	0 V.	-15V. DC	0 V.	66V DC	12V. AC	66V. DC
4	12SQ7 GT	0 V.	-55V DC	0 V.	-22V DC	0 V.	28V. DC	12V. AC	0 V.
5	50L6 GT	0 V.	48V. AC	117V. DC	66V. DC	0 V.	0 V.	100V. AC	4.2V. DC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7 GT	225KΩ	48Ω	0Ω	4.5 MEG.	0Ω	25KΩ	36Ω	30KΩ
2	12SA7	225KΩ	24Ω	25KΩ	25KΩ	22KΩ	.5Ω	36Ω	50KΩ
3	12SK7 GT	225KΩ	24Ω	225KΩ	4.5 MEG.	0Ω	25KΩ	12Ω	25KΩ
4	12SQ7 GT	225KΩ	1.3MEG.	0Ω	1 MEG.	INF.	420KΩ	12Ω	0Ω
5	50L6 GT	INF.	48Ω	25KΩ	25KΩ	440KΩ	INF.	90Ω	150Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-1

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

AIR KING
MODEL A-403

AIR KING MODEL A-403

TRADE NAME	Air King, Model A-403
MANUFACTURER	Air King Products Co., 1523 63rd St., Brooklyn, N.Y.
TYPE SET	AC Operated Radio-Phono Combination Superheterodyne with Loop Antenna
TUBES (FOUR)	Types, 12SA7GT Converter, 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-125 Volts AC
TUNING RANGE—BROADCAST	535-1600KC RATING .250 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available, If not connect a capacitor in series with low side of signal generator and chassis. Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to chassis.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2,	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD to reduce hum modulation.
2		Place generator lead near loop.	1600KC	"	"	A3	Adjust for maximum output.
3		"	"	"	"	A4	" " " "

ALIGNMENT INSTRUCTIONS

1. Remove two push on type control knobs.
2. Loosen set screw and remove dial pointer.
3. Remove four clips holding loop to back of cabinet.
4. Remove three hex head screws holding chassis in cabinet. Remove chassis from cabinet.
5. Unsolder phono-motor leads from black leads coming from chassis.
6. Unsolder phono-pickup leads. Red lead with blue tracer from white lead. Dark gray lead from shiny black lead.

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PARTS LIST AND DESCRIPTIONS

AIR KING
MODEL A-403

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		AIR KING PART No.	STANDARD REPLACEMENT		
1	Converter	12SA7GT	12SA7GT	8AD	
2	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
3	Power Output	50L6GT	50L6GT	7AC	
4	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	AIR KING PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	
5A	50	150	2073	AF1010D	UP5315	FP214	DY-5030-150	EL-35	▲ Filter
B	30	150							■ "
6	.05	400		484-05	DT485	TP426	S-4-05	TC-15	Line Filter
7	.02	400		484-02	DT482	TP423	S-4-02	TC-12	Output Plate Bypass
8	.02	400		484-02	DT482	TP423	S-4-02	TC-12	Audio Coupling
9	.001	600		684-001	DT6D1	TP404	S-6-001	TC-21	Audio Plate Bypass
10	.002	400		484-002	DT6D2	TP405	S-6-002	TC-22	Audio Coupling
11	.05	400		484-05	DT485	TP426	S-4-05	TC-15	AVC Filter
12	.01	400		484-01	DT481	TP421	S-4-01	TC-11	Ext. Ant. Isolation
13	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Diode Filter
14	47	500		1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	Ant. Pri. Shunt

CONTROLS

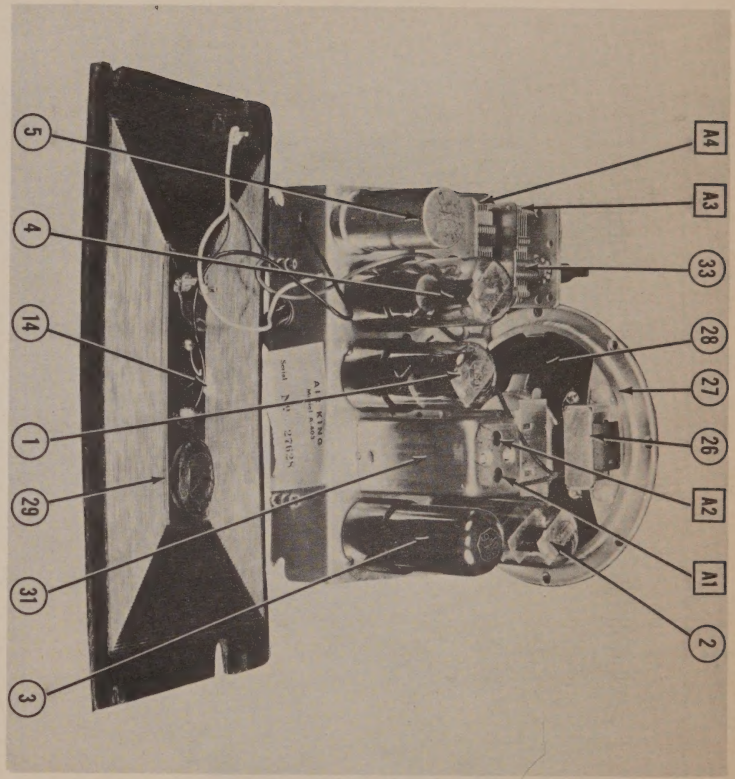
ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	AIR KING PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
15A	2 Meg.	1	2480	MR55	D13-139	M-66-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 15A per instructions
C	Switch		" "	M26	41	SW-A	" " " "

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	AIR KING PART No.	IRC PART No.	
16	18KΩ	½		BTS-18K	Br.-Gray-Or. Oscillator
17	4.7 Meg.	½		BTS-4.7 Meg.	Yl.-Vi.-Grn. AVC Network
18	4.7 Meg.	½		BTS-4.7 Meg.	Yl.-Vi.-Grn. AF Grid
19	220KΩ	½		BTS-220K	Red-Red-Yl. AF Plate Load
20	330KΩ	½		BTS-330K	Or.-Or.-Yl. Output Grid
21	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Series Phono
22	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Phono Shunt
23	27Ω	½		BW-½-27	Red-Vi.-Blk. Series Filament
24	3300Ω	1		BTA-3300	Or.-Or.-Red Filter - See Note
25	18Ω	½		BW-½-18	Br.-Gray-Blk. Rectifier Ballast

Note - Some models use 2200Ω in this application. IRE replacement BTA-2200.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		AIR KING	STANCOR	THORDAR'N		
	PRI.	SEC.	PRI.	SEC.	PART No.	PART No.	PART No.		
26A	3400Ω	3.0Ω	260Ω	.8Ω	Part of 5855	A-3876	T22S45		
B					Part of 5877				Used with Alternate Speaker

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			AIR KING PART No.	JENSEN PART No.		
	FIELD	VC IMP.		ST-105†		†Drill and tap magnet frame
27A	PM	3.0Ω	5855	Mod. P5-X		
B			5877			Alternate Speaker
	CONE DIA.	VC DIA.				
28	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

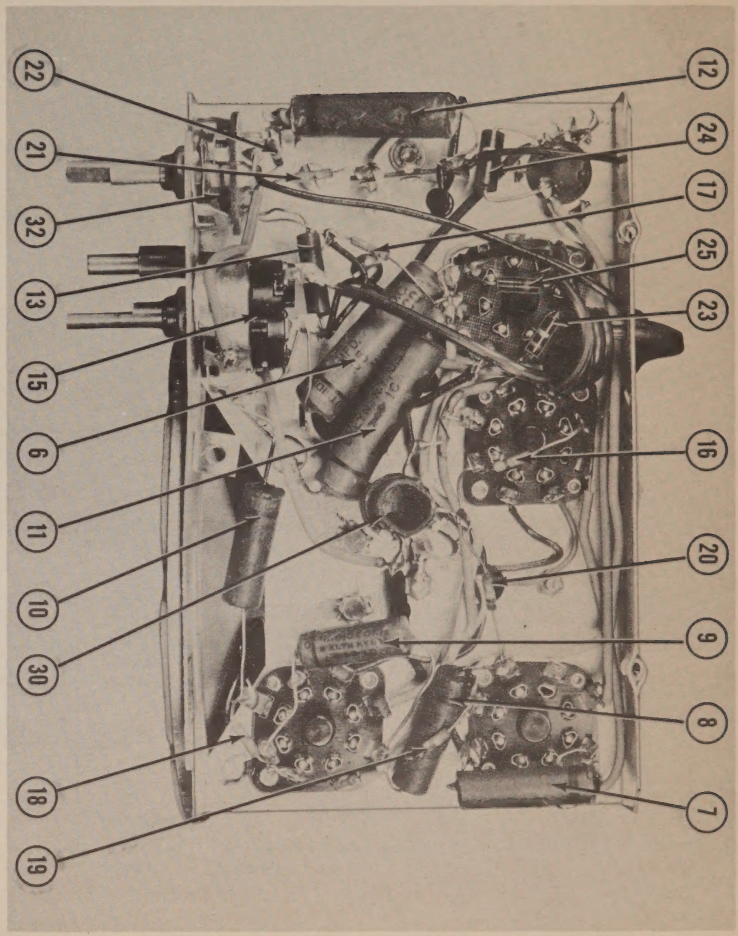
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	AIR KING PART No.	MEISSNER PART No.	
29	Loop Ant.	65Ω	2.5Ω	28186		
30	Osc. Coil		9Ω	28184	14-1040	Add 50 MMFD from grid to high side tuning cap.
31	Input IF	26Ω	26Ω			

MISCELLANEOUS

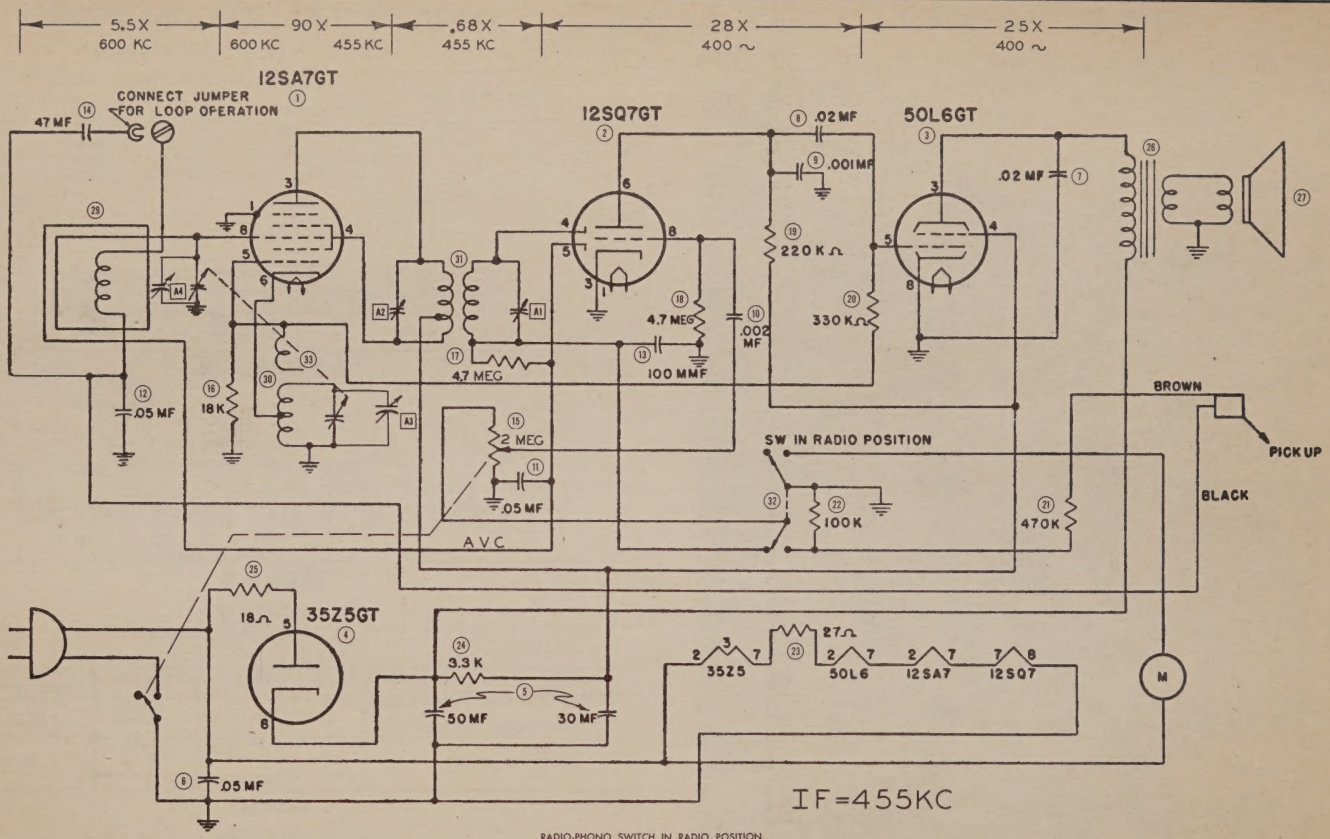
ITEM No.	PART NAME	AIR KING PART No.	NOTES
32	Switch		Radio-Phono
33	2 Gang Var. Cap	1675	18-465 MMF, 27-194 MMF
	Crystal Cart.		Astatic Type L26A

CHASSIS—BOTTOM VIEW



AIR KING MODEL A-402

AIR KING MODEL A-402



RADIO-PHONO SWITCH IN RADIO POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0V.	25V.AC	80V.DC	80V.DC	-1.7V.DC	0V.	13V.AC	-.8V.DC
2	12SQ7GT	0V.	-1 V.DC	0V.	-.7 V.DC	-.8V. DC	60V.DC	13V.AC	0V.
3	50L6 GT	0V.	25V.AC	110V.DC	80V.DC	- 1.2V.DC	0V.	80V.AC	0V.
4	35Z5GT	-.8V.DC	117V.AC	110V.AC	117 V.AC	117V.AC	80V.AC	85V.AC	125V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0Ω	23Ω	40KΩ	40 KΩ	17 KΩ	.6Ω	12Ω	5 MEG
2	12SQ7GT	0Ω	4.5MEG.	0Ω	2 MEG.	5 MEG.	260 KΩ	12Ω	0Ω
3	50L6GT	0Ω	23Ω	40KΩ	40 KΩ	310 KΩ	INF.	70Ω	0Ω
4	35Z5GT	5 MEG.	120Ω	115Ω	120Ω	120Ω	70Ω	95Ω	40 KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS 4710-2

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

CISCO
MODEL 9A5

CISCO
MODEL 9A5

CISCO MODEL 9A5

TRADE NAME	Cisco, Model 9A5
SUPPLIER	Cities Service Oil Co., New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver - Self Contained Loop Antenna
TUBES (FIVE)	Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1720KC RATING .245 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to chassis.	455KC	Tuning cap. open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2		Loop	1600KC	1600KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3		"	1400KC	Tune for maximum output.	"	A6	"

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PARTS LIST AND DESCRIPTIONS

CISCO MODEL 9A8

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: CISCO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter		12SA7GT	8AD	
2	IF Amp.		12SK7GT	8N	
3	Det.-AVC-AF		12SQ7GT	8Q	
4	Power Output		50L6GT	7AC	
5	Rectifier		35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CISCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	3-1	AF88D	UP4215	FP306†	DY-4020-150	EL-24	■ Filter
B	20	150							▲ "
7	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Line Filter
8	.02	400		484-02	DT4S2	TP423	S-4-02	TC-12	Output Plate Bypass
9	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
10	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	" "
11	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
12	250	500		1468-00025	SW5T25	MC240	MO.5-325	1FM-325	Audio Plate Bypass
13	100	500		1468-0001	SW5T1	MC235	MO.5-31	1FM-31	IF Bypass Vol. Cont.
14	100	500		1468-0001	SW5T1	MC235	MO.5-31	1FM-31	Osc. Grid Capacitor

†Do not use bypass section

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CISCO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
15A	500KΩ	1	20-1	MR48	D13-133	M-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 15A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

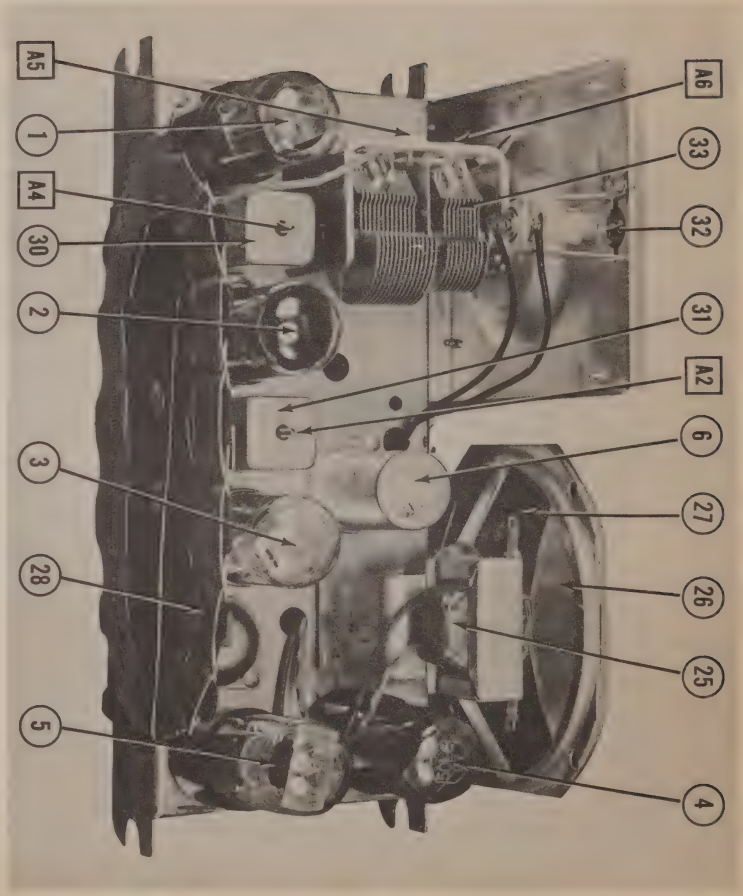
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CISCO PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
16	20KΩ	½		BTS-22K	Red-Blk.-Or. Oscillator Grid
17	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AVC Network
18	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network-See Note
19	6 Meg.	½		BTS-5.6 Meg.	Blue-Blk.-Grn. AF Grid
20	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. AF Plate Load
21	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
22	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
23	2000Ω	1		BTA-2200	Red-Blk.-Red Filter
24	10Ω	½		BW-½-10	Br.-Blk.-Blk. Line Dropping

Note-Some models use 2 Meg. in this application. IRC replacement BTS-2.2 Meg.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: CISCO PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.		INSTALLATION NOTES
25	2400Ω	3.2Ω	150Ω	.5Ω	Part of 8-1	A-3876*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: CISCO PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105‡		
26	PM	3.2Ω	8-1	Mod. P5-X		‡Drill and tap magnet frame.
	CONE DIA.	VC DIA.				
27	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

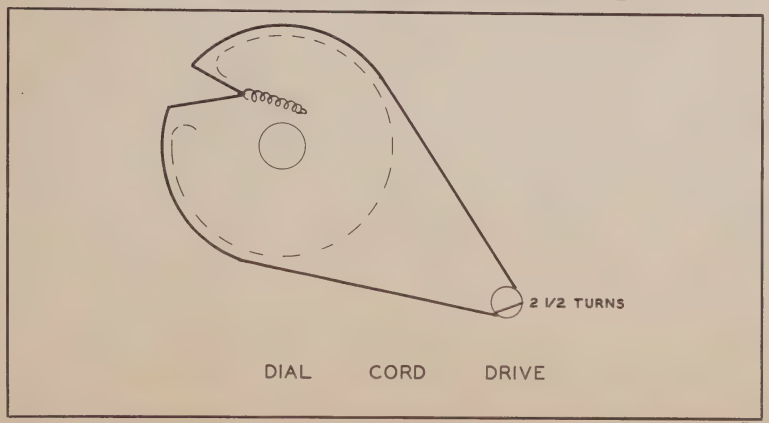
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: CISCO PART No.	MEISSNER PART No.
28	Loop Ant.		1.2Ω	32-5	
29	Osc. Coil	1Ω	6Ω	14-1	14-1040
30	Input IF	10.5Ω	10Ω	15-3	16-6668
31	Output IF	10.5Ω	10.5Ω	15.3	16-6669

DIAL LIGHT

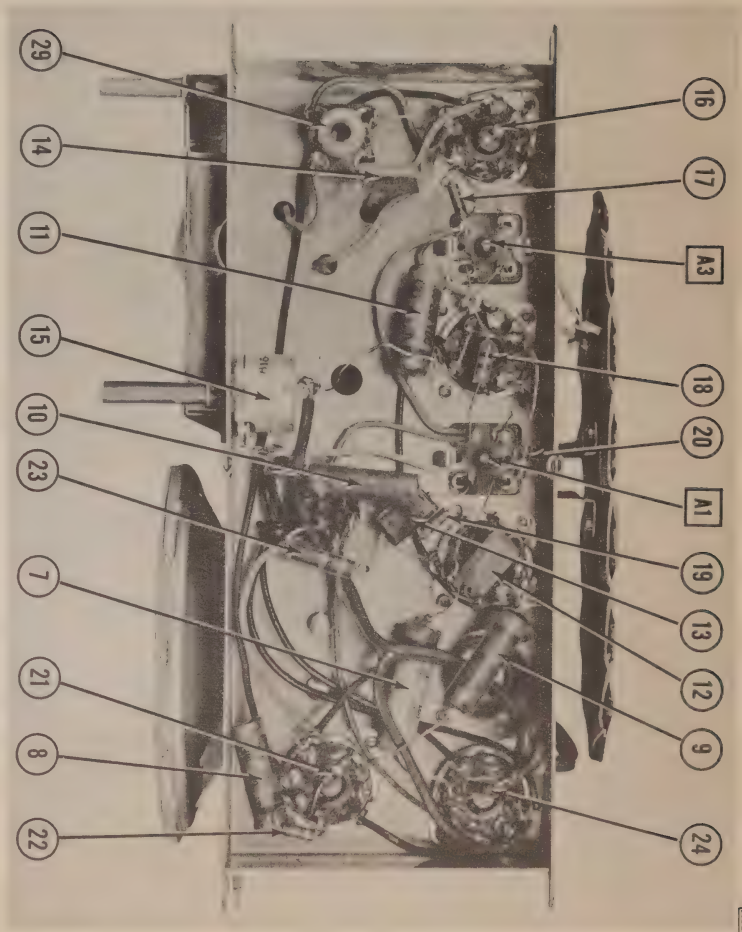
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: CISCO PART No.		INSTALLATION NOTES
32	Bayonet	6-8	0.15	Brown			Type 47

MISCELLANEOUS

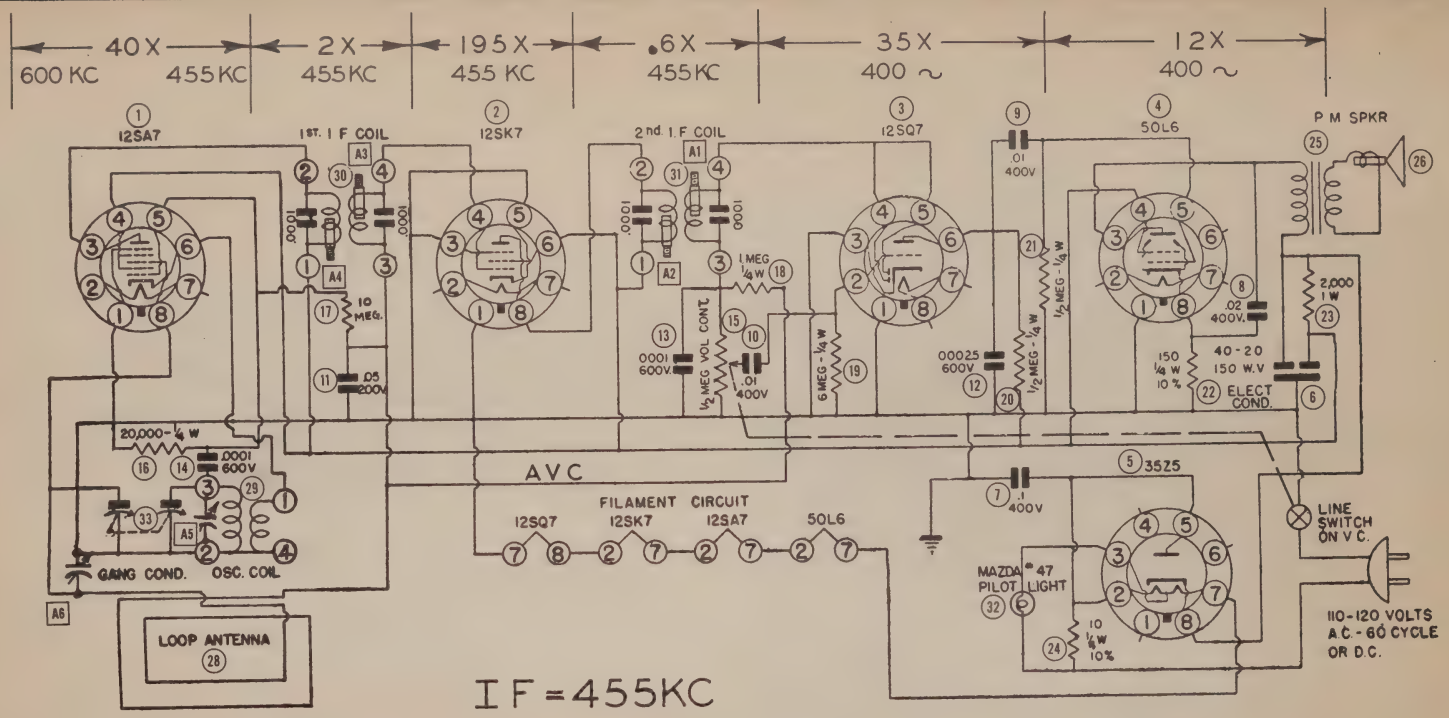
ITEM No.	PART NAME	CISCO PART No.	NOTES
33	2 Gang Var. Cap	6-1	28-474 MMF, 32-195 MMF



CHASSIS—BOTTOM VIEW



CISCO MODEL 945



IF = 455KC

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0V.	25V.AC	92V.DC	92V.DC	-6.1V.DC	0V.	37V.AC	-.63V.DC
2	12SK7GT	0V.	13V.AC	0V.	-.63V.DC	0V.	92V.DC	25V.AC	92V.DC
3	12SQ7GT	0V.	-.68V.DC	0V.	-53V.DC	-53V.DC	38V.DC	13V.AC	0V.
4	50L6GT	0V.	37V.AC	128V.DC	92V.DC	0V.	0V.	88V.AC	5.9V.DC
5	35Z5GT	0V.	117V.AC	113V.AC	0V.	117V.AC	117V.AC	88V.AC	135V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0Ω	24Ω	95KΩ	95KΩ	18KΩ	.8Ω	36Ω	1 MEG.
2	12SK7GT	0Ω	12Ω	0Ω	1 MEG.	0Ω	95KΩ	24Ω	95KΩ
3	12SQ7GT	0Ω	4 MEG.	0Ω	380KΩ	380KΩ	700KΩ	12Ω	0Ω
4	50L6GT	0Ω	36Ω	95KΩ	95KΩ	500KΩ	INF.	80Ω	135Ω
5	35Z5GT	INF.	108Ω	102Ω	INF.	108Ω	108Ω	80Ω	95KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-3

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

CONCORD
MODEL 6E51B

CONCORD
MODEL 6E51B

CONCORD MODEL 6E51B

TRADE NAME Concord, Model 6E51B
SUPPLIER Concord Radio Corp., 901 W. Jackson Blvd., Chicago 7, Ill.
TYPE SET AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (FIVE) Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.

POWER SUPPLY 110-120 Volts AC-DC
TUNING RANGE—BROADCAST 530-1725KC RATING .250 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum position, output of signal generator should b e no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to B-.	455KC	Tuning cap. open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	200MMFD	High side to ext ant. lead. Low side to chassis.	1500KC	1500KC	"	A5	Adjust for maximum output.
3	200MMFD	"	1400KC	Tune for maximum output.	"	A6	" " " "
4	200MMFD	"	600KC	"	"	A7	Rock tuning cap and adjust for maximum output. Repeat Steps 2, 3, 4 until no further improvement can be made.

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PARTS LIST AND DESCRIPTIONS

CONCORD MODEL 6ES1B

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: CONCORD PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7GT	12SA7GT	8AD	
2	IF Amp.	12SK7GT	12SK7GT	8N	
3	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CONCORD PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	50	150	S-CE122M	PRSA150-50-	BRD3515	2N520	M-5030-150	TA-530	Filter - Red
B	30	150		30					" - Blue
7	.05	200	CP-105E	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
8	.005	400	CP-116E	484-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
9	.02	400	CP-104E	484-02	DT4S2	TP423	S-4-02	TC-12	"
10	.05	200	CP-105D	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
11	.2	200	CP-133D	484-.2	DT4P2	TP429	S-4-2	TC-2	Line Isolation
12	.002	600		684-002	DT6D2	TP405	S-6-002	TC-22	Ext. Ant. Isolation
13	250	500	CM-112E	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Audio Plate Bypass
14	100	500	CM-103E	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Diode Filter
15	100	500	CM-103E	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	" " "
16	100	500	CM-103E	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Osc. Grid Capacitor

*Not used in all models.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CONCORD PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17A	500KΩ	1	S-RV171-1	MR48	D13-133	M-60-Z	Volume Control-Early production
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 17A per instructions
C	Switch		" "	M26	41	SW-A	" " "
17A	1 Meg.	1		MR53	D13-137	M-63-Z	Volume Control-Later production
B	Shaft			Not Req.	A	Not Req.	Attach to 17A per instructions
C	Switch			M26	41	SW-A	" " "

RESISTORS

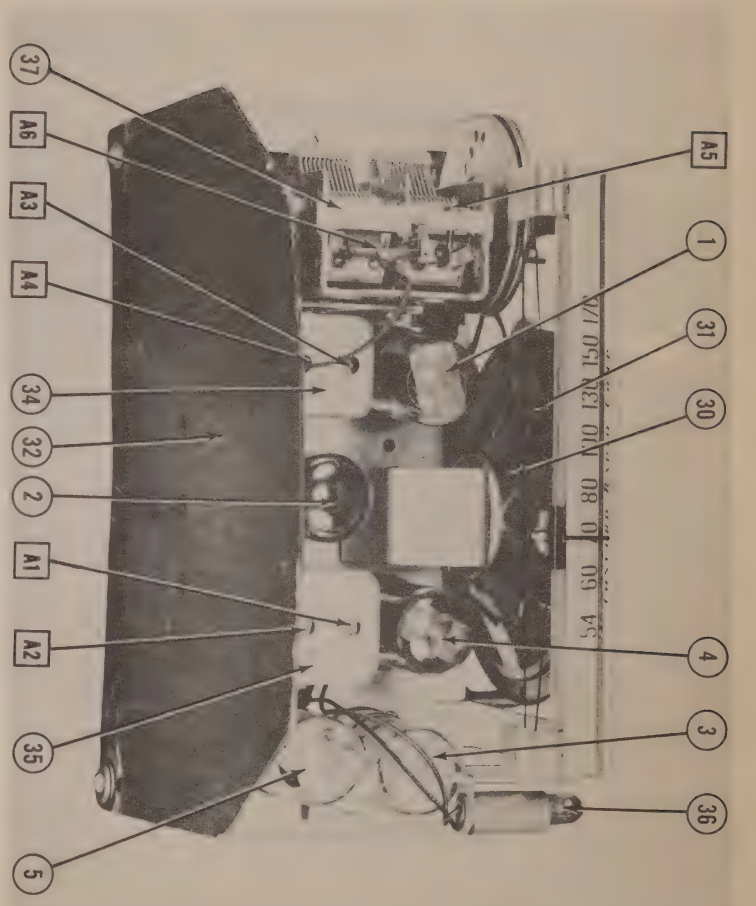
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CONCORD PART No.	IRC PART No.	IDENTIFICATION CODES
18	27KΩ	½	RS-193B	BTS-27K	Red-Vi.-Or. Oscillator Grid
19	220KΩ	½	RS-190B	BTS-220K	Red-Red-Yl. Line Isolation
20	2.2 Meg.	½	RS-223B	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
21	56KΩ	½	RS-229B	BTS-56K	Grn.-Blue-Or. Diode RF Filter
22	4.7 Meg.	½	RS-237B	BTS-4.7 Meg.	Yl.-Vi.-Grn. AF Grid
23	470KΩ	½	RS-189B	BTS-470K	Yl.-Vi.-Yl. AF Plate Load-See Note
24	470KΩ	½	RS-189B	BTS-470K	Yl.-Vi.-Yl. Output Grid
25	150Ω	½	RS-135C	BW-½-150	Br.-Grn.-Br. Output Cathode
26	27KΩ	1	RS-193D	BTA-27K	Red-Vi.-Or. Output Cathode Bias
27	1500Ω	2	RS-195E	BT-2-1500	Br.-Grn.-Red Filter
28	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Volume Control Shunt

Note-Some models use 220KΩ in this application. Replacement same as Item #19.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: CONCORD PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
29	2450Ω	3.2Ω	177Ω	1Ω	S-TA115	A-3876	T22S45		

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: CONCORD PART No.	REPLACEMENT DATA: JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC DIA.		ST-1071		†Drill and tap magnet frame.
30	PM	3.8Ω	S-WL104	Mod. PS-V		
	CONE DIA.	VC DIA.				
31	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

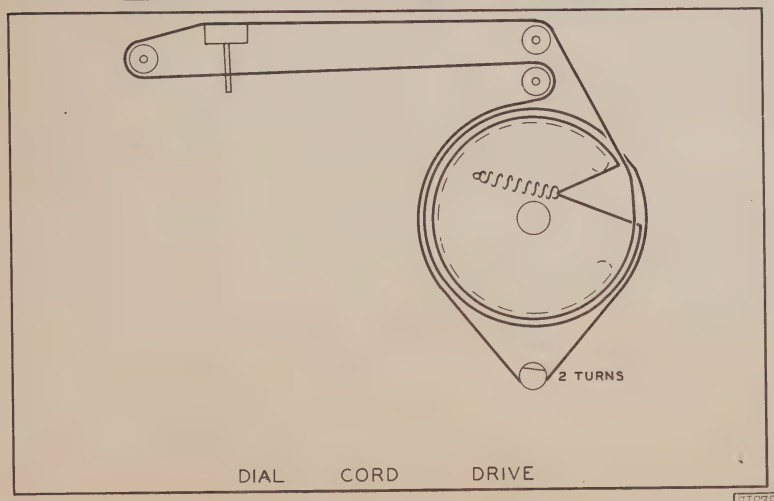
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: CONCORD PART No.	REPLACEMENT DATA: MEISSNER PART No.
32	Loop Ant.	0Ω	1Ω	C-ZQ-501	
33	Osc. Coil		6Ω	S-LR-120	14-1040
34	Input IF	21Ω	21Ω	S-LR-127	16-6658
35	Output IF	10Ω	10Ω	S-LR-129	16-6660

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: CONCORD PART No.		INSTALLATION NOTES
36	Bayonet	6-8	0.15	Brown	IP-214		Type 47

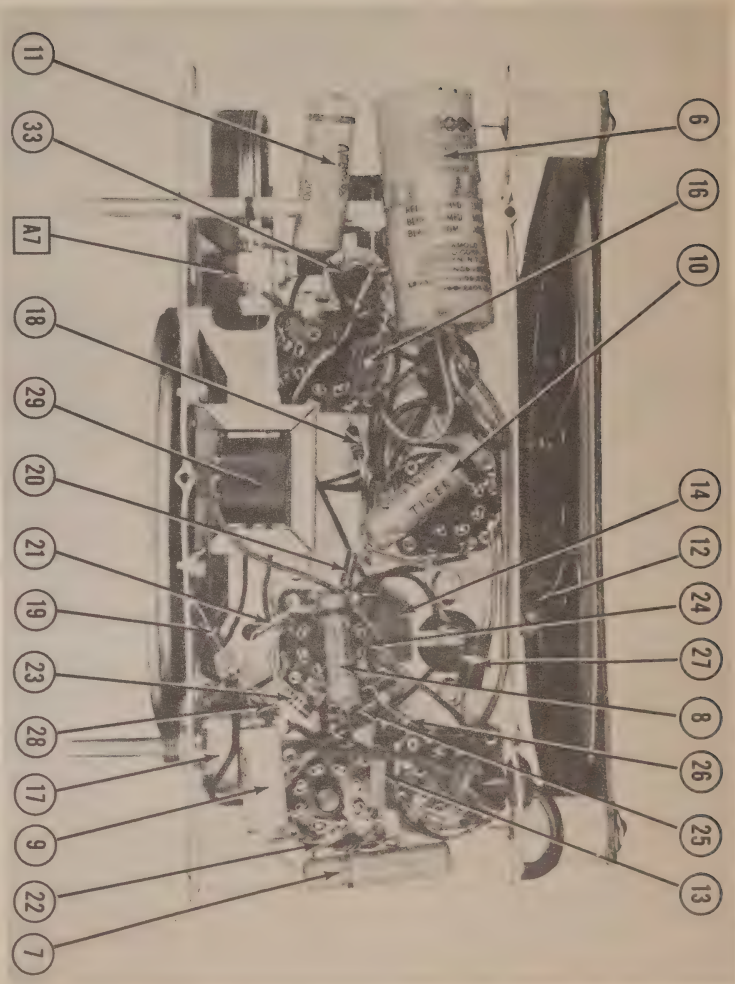
MISCELLANEOUS

ITEM No.	PART NAME	CONCORD PART No.	NOTES
37	2 Gang Var. Cap	C-ZQ-501	(35-552 MMF) each section

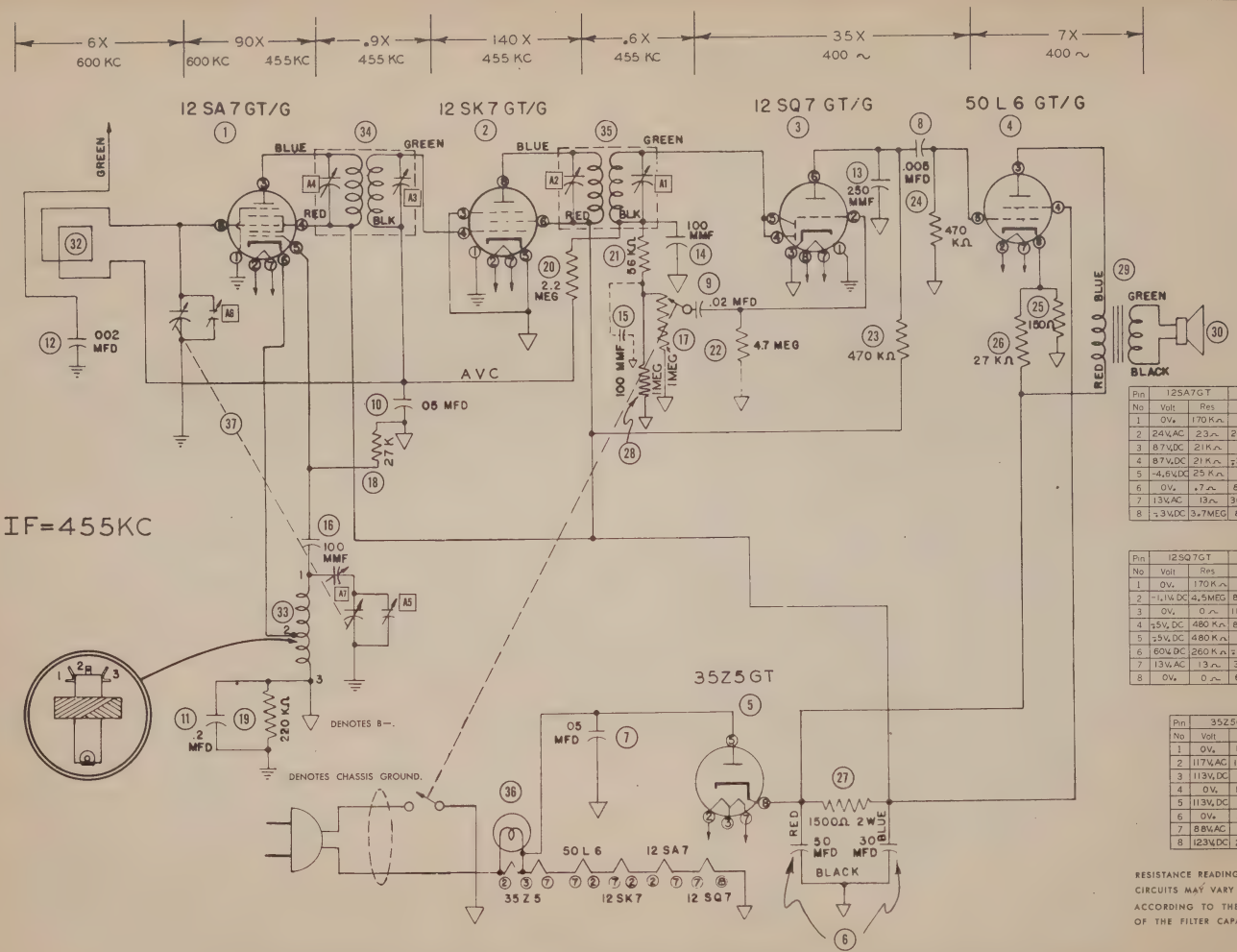


CONCORD MODEL 6551B

CHASSIS—BOTTOM VIEW



CONCORD MODEL 6551B



Pin No	12SA7GT Volt	12SA7GT Res	12SK7GT Volt	12SK7GT Res
1	0V.	170KΩ	0V.	170KΩ
2	24V.AC	23Ω	24V.AC	23Ω
3	87V.DC	21KΩ	0V.	0Ω
4	87V.DC	21KΩ	-3V.DC	3.7MEG
5	-4.6V.DC	25KΩ	0V.	0Ω
6	0V.	.7Ω	87V.DC	21KΩ
7	13V.AC	13Ω	36V.AC	34Ω
8	-3V.DC	3.7MEG	87V.DC	21KΩ

Pin No	12SQ7GT Volt	12SQ7GT Res	50L6GT Volt	50L6GT Res
1	0V.	170KΩ	0V.	0Ω
2	-1.1V.DC	4.5MEG	88V.AC	77Ω
3	0V.	0Ω	118V.DC	20KΩ
4	-5V.DC	480KΩ	87V.DC	21KΩ
5	-5V.DC	480KΩ	0V.	460KΩ
6	60V.DC	260KΩ	-5V.DC	600KΩ
7	13V.AC	13Ω	36V.AC	34Ω
8	0V.	0Ω	6.2V.DC	140Ω

Pin No	35Z5GT Volt	35Z5GT Res
1	0V.	INF.
2	117V.AC	100Ω
3	113V.DC	98Ω
4	0V.	INF.
5	113V.DC	98Ω
6	0V.	INF.
7	88V.AC	77Ω
8	123V.DC	206Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 4710-4

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

THIS RECEIVER IS SUPPLIED WITHOUT CABINET

CONCORD MODEL 7G26C

TRADE NAME	Concord, Model 7G26C
MANUFACTURER	Concord Radio Corp., 901 W. Jackson Blvd., Chicago 7, Ill.
TYPE SET	AC Operated Phono-Radio Combination Superheterodyne with Loop Antenna
TUBES (SIX)	Types, 6SA7 Converter, 6SK7 1st IF Amp., 6SF7 2nd IF Amp.-Det.-AVC, 6SJ7 AF Amp., 6V6GT Power Output, 6X5GT Rectifier.
POWER SUPPLY	105-125 Volts AC — RATING .520 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1600KC — SHORT WAVE 9.25-15MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 8 (grid) of 6SA7. Low side to chassis.	455KC	BC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output
2	100MMFD	High side to ant. lead. Low side to chassis.	1620KC	"	"	"	A5	" " " "
3	100MMFD	"	1400KC	"	Tune for maximum output.	"	A6	Adjust for maximum output. If pointer is not set on 1400, reset it and fasten securely.
4	100MMFD	"	600KC	"	"	"	A7	Rock tuning cap and adjust for maximum output. Repeat steps 2, 3 and 4 until no further increase in output is obtained.
5	400Ω	"	15.6MC	SW	Tuning cap. fully open.	"	A8	Adjust for maximum output.
6	400Ω	"	14MC	"	Tune for maximum output.	"	A9	Rock tuning cap and adjust for maximum output. Reassemble chassis in cabinet and set up as in Step 3. Adjust A6 for maximum output.

CONCORD MODEL 7 G 26 C

CONCORD MODEL 7 G 26 C

VOLTAGE AND RESISTANCE READINGS TAKEN IN BROADCAST POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SA7	0V.	0V.	220V.DC	70V.DC	-4V.DC	0V.	6.2V.AC	-1V.DC
2	6SK7	0V.	0V.	0V.	-4V.DC	0V.	65V.DC	6.2V.AC	203V.DC
3	6SF7	0V.	-4V.DC	0V.	65V.DC	-35V.DC	220V.DC	6.2V.AC	0V.
4	6SJ7	0V.	0V.	0V.	-8V.DC	0V.	40V.DC	6.2V.AC	50V.DC
5	6V6GT/G	0V.	6.2V.AC	270V.DC	230V.DC	0V.	0V.	0V.	10V.DC
6	6X5GT	0V.	0V.	245V.AC	0V.	245V.AC	0V.	6.2V.AC	285V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SA7	0Ω	0Ω	85KΩ	125KΩ	35KΩ	.7Ω	.1Ω	4MEG.
2	6SK7	0Ω	0Ω	0Ω	2.2MEG.	0Ω	125KΩ	.1Ω	85KΩ
3	6SF7	0Ω	3 MEG.	0Ω	125KΩ	530KΩ	85KΩ	.1Ω	0Ω
4	6SJ7	0Ω	0Ω	0Ω	10MEG.	0Ω	550KΩ	.1Ω	200KΩ
5	6V6GT/G	0Ω	.1Ω	85KΩ	85KΩ	500KΩ	INF.	0Ω	240Ω
6	6X5GT	INF.	0Ω	150Ω	INF.	160Ω	INF.	.1Ω	85KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

CONCORD MODEL 7026C

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: CONCORD PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	6SA7	6SA7	8R	
2	1st IF Amp.	6SK7	6SK7	8N	
3	2nd IF Amp.-Det.-AVC	6SF7	6SF7	7AZ	
4	AF Amp.	6SJ7	6SJ7	8N	
5	Power Output	6V6GT	6V6GT	7AC	
6	Rectifier	6X5GT	6X5GT	8S	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CONCORD PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	450	45X346	AF88J	UF5DJ39	FP346	DY-314	EL-424	◆ Filter
B	40	450			BR202A				■ "
C	20	25		PRS25-25					▲ Cath. Bypass
8	.2	400	D67204	484-.2	DT4P2	TP429	S-4-2	TC-2	RF Bypass Pwr. Supp.
9	.004	600	F66402	684-004	DT6D4	TP407	S-6-004	TC-24	Output Plate Bypass
10	.01	400	D66103	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
11	.004	400	D66402	484-004	DT6D4	TP407	S-6-004	TC-24	Tone Compensation
12	.025	400	D67253	484-025	DT4S25	TP451			Audio Plate Decoup.
13	.1	400	D67104	484-.1	DT4P1	TP428	S-4-1	TC-1	Audio Screen Bypass
14	.005	400	D66502	484-005	DT6D5	TP403	S-6-005	TC-25	Audio Coupling
15	.04	400	D64403	484-04	DT4S4	TP425	S-4-04	TC-14	Tone Compensation
16	.04	400	D66403	484-04	DT4S4	TP425	S-4-04	TC-14	IF Screen Bypass
17	.05	200	B66503	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
18	.04	400	D66403	484-04	DT4S4	TP425	S-4-04	TC-14	Conv. Screen Bypass
19	.0005	200	B66501	1468-0005	DT6T5	TP403	S-6-0005	TC-35	RF Coupling
20	470	500	47X505	1468-0005	5W5T5	MC245	MO.5-347	1FM-35	Audio Plate Bypass
21	100	500	47X476	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Diode Filter
22	68	500	47X471						" "
23	47	500	47X463	1468-00005	5W5Q5	MC225	MO.5-447	1FM-45	Tone Compensation
24	47	500	47X463	1468-00005	5W5Q5	MC225	MO.5-447	1FM-45	IF Coupling
25	68	500	47X486						Osc. Grid Capacitor
26	286	500	47X481						Fixed Padder
27	40	500	47X472	1469-00004	5R5Q4	MC8223	MOS.5-44	MS-44	Fixed Trimmer
28	360	500	47X474						Fixed Padder
29	47	500	47X473				MOS.5-447		Fixed Trimmer
30	270	500	47X445				MO.5-327		Loop Pri. Shunt

CONTROLS

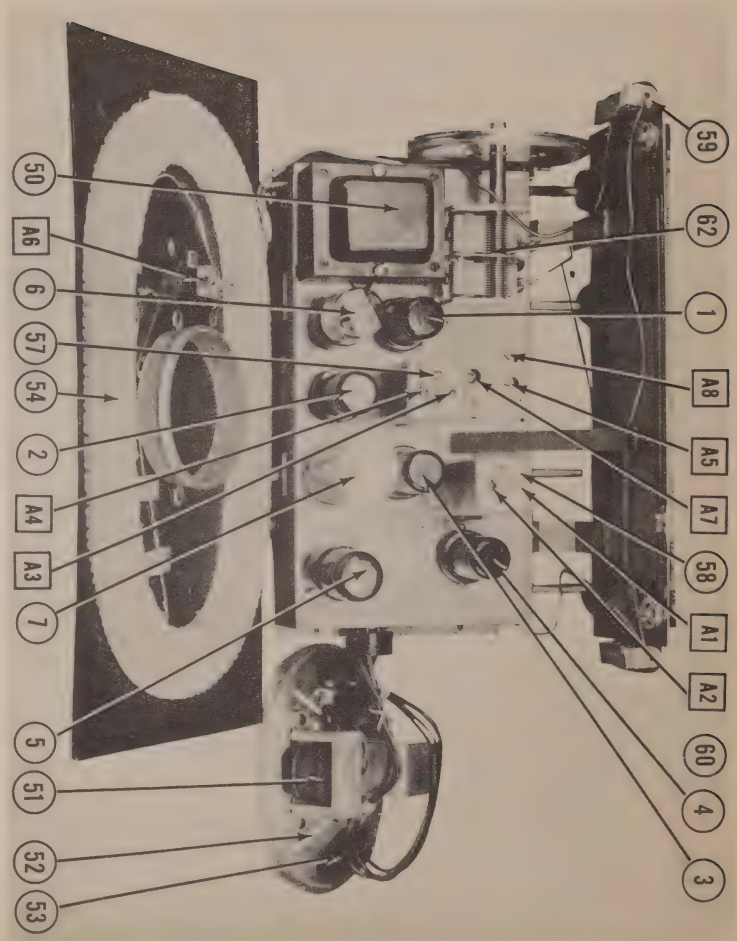
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CONCORD PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
31A	500K	1	36X357	TM227	D13-133X	AT-78	Volume Control
B	Shaft		Not Req.	SS25	E	KSS-3	Attach to 31A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "
32	3 Meg.	1	40X277				Tone Control & Radio Phono Sw. #
32A	3 Meg.	1	40X282	UM165	D13-140	AM-67-Z	Tone Control - See Note 1
B	Shaft		25X1539 †	SS25	E	KSS-3	Attach to 32A per instructions
C	Switch		2A161	None	None	None	Radio Phono Switch

†Radio phono switch lever.
#This control has radio phono switch on rear of control.
Note 1 - This control has radio phono switch independent of control and is actuated by a lever attached to control shaft.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CONCORD PART No.	IRC PART No.	IDENTIFICATION CODES
33	2.2 Meg.	½	B85225	BTS-2.2 Meg.	Red-Red-Grn. Converter Grid
34	39KΩ	1	C84393	BTA-39K	Or.-White-Or. Converter Screen Dropping
35	39KΩ	½	B84393	BTS-39K	Or.-White-Or. Oscillator Grid
36	39KΩ	1	C84393	BTA-39K	Or.-White-Or. IF Screen Dropping
37	2200Ω	½	B84222	BTS-2200	Red-Red-Red 1st IF Plate Load
38	1 Meg.	½	B85105	BTS-1 Meg.	Br.-Blk.-Grn. 2nd IF Grid
39	2.2 Meg.	½	B85225	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
40	47KΩ	½	B85473	BTS-47K	Yl.-Vi.-Or. Diode RF Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	CONCORD PART No.	IRC PART No.	
41	15KΩ	½	B84153	BTS-15K	Br.-Grn.-Or. Tone Compensation
42	10 Meg.	½	B85106	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
43	470KΩ	½	B85474	BTS-470K	Yl.-Vi.-Yl. AF Screen Dropping
44	33KΩ	½	B84333	BTS-33K	Or.-Or.-Or. AF Plate Load
45	82KΩ	½	B84823	BTS-82K	Gray-Red-Or. AF Plate Decoupling
46	470KΩ	½	B85474	BTS-470K	Yl.-Vi.-Yl. Output Grid
47	270Ω	1	C84271	BW-1-270	Red-Vi.-Br. Output Cathode
48	1800Ω	2	D84182	BT-2-1800	Br.-Gray-Red Filter
49	2Ω	½	43X213	BW-½-2.2	Series Pilot Light

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	CONCORD PART No.	STANCOR PART No.	THORDARSON PART No.	
50	117V AC @.520A	500V CT @ .06A	6.3V AC @ 2.5A		53X282		T22R02	

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		CONCORD PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
51A	6600Ω	3.7Ω	530Ω	1.25Ω	Part of 12A442	A-3823	T22S47 ‡		‡ Drill one new mounting hole.
B					Part of 12A436				Alternate transformer

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	FIELD	VC IMP.	CONCORD PART No.	JENSEN PART No.		
52A	PM	3.7Ω	12A442	ST-110		
B			12A436	Mod. P6-V		Alternate Speaker
	CONE DIA.	VC DIA.				Specify Part Number and letters stamped on speaker.
53	6"	7/8"	ORDER FROM	MANUFACTURER.		

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	CONCORD PART No.	MEISSNER PART No.	
54	Loop Ant.	24Ω	1.6Ω	26A449		
55	SW Ant.Coil	1.3Ω	0Ω	9A1812	14-1044	
56A	BC Osc.Coil	1Ω	1.8Ω	9A1813		56A & 56B wound on same form
B	SW " "		0Ω			
57	Input IF	21Ω	21Ω	9A1814	16-6658	
58	Output IF	20Ω	18Ω	9A1815	16-6660	

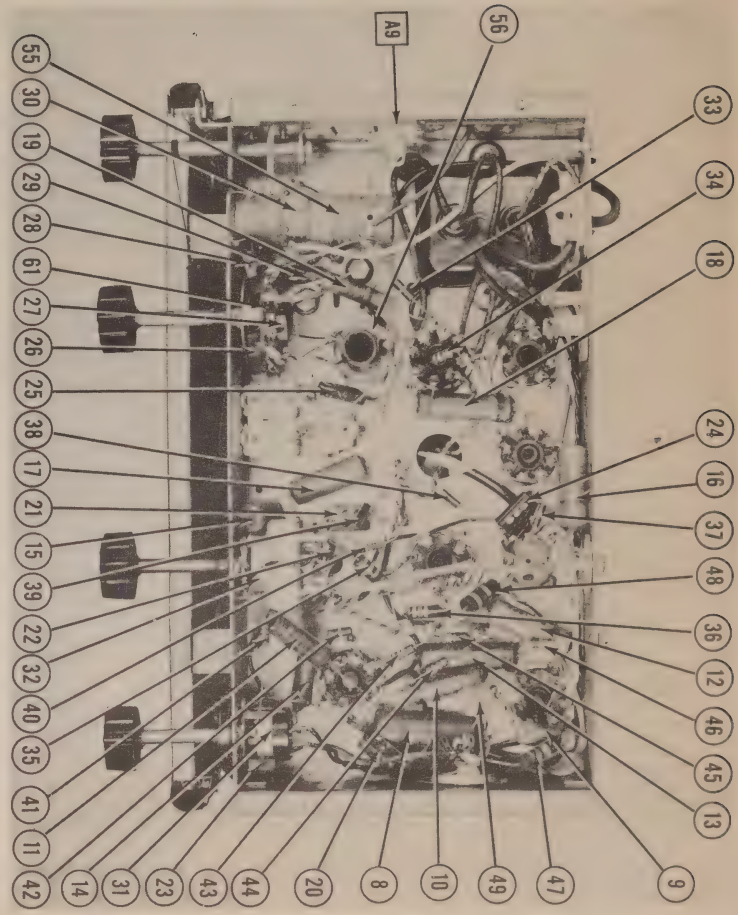
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					CONCORD PART No.		
59	Bayonet	6.3	0.15	Brown	7X199		Type 47
60	"	"	"	"	7X199		"

MISCELLANEOUS

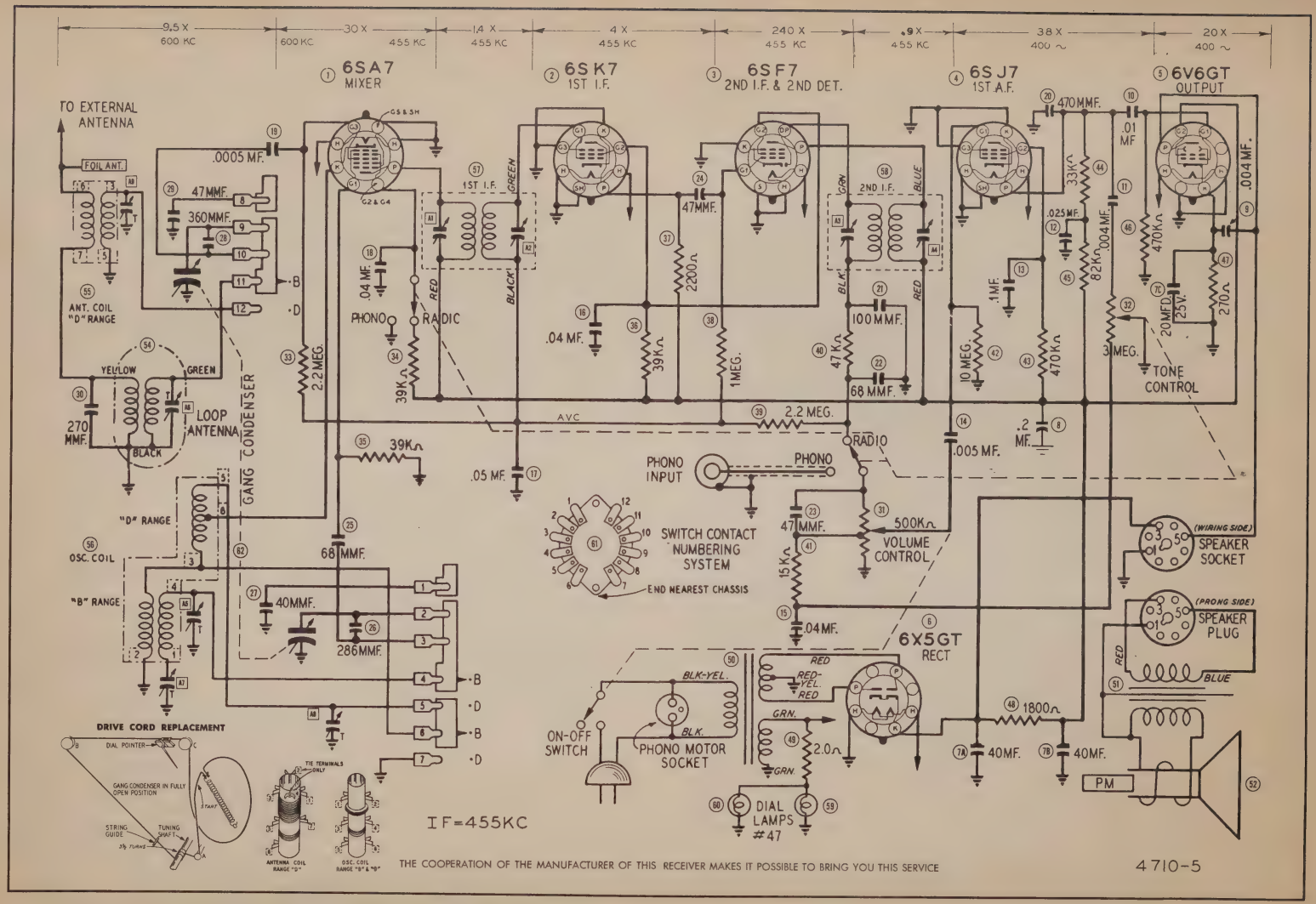
ITEM No.	PART NAME	CONCORD PART No.	NOTES
61	Bandswitch	2A360	
62	2 Gang Var. Cap	14A184	16-482 MMF, 14-408 MMF
A5	Dual Trimmer	17A109	BC Osc. (2.5-35MMF)
A8			SW Osc. (2.5-35MMF)
A6	Trimmer	17A235	BC Ant. (2-12 MMF)
A7	"	17A155	BC Osc. Padder (350-430MMF)
A9	"	17A164	SW Ant. (5-50 MMF)
	Pointer	15X163	

CHASSIS—BOTTOM VIEW



CONCORD MODEL 7025C

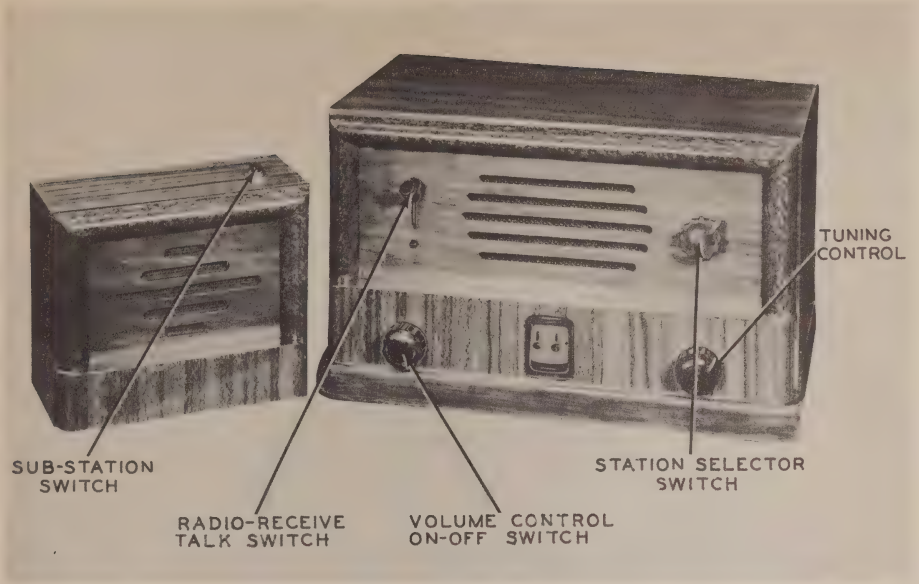
CONCORD MODEL 7025C



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

ELECTRONIC LABORATORIES
MODEL 76 RU "RADIO UTILIPHONE"



ELECTRONIC LABS. MODEL 76RU

TRADE NAME	Electronic Labs. Model 76RU "Radio-Utiliphone" with Sub-Station Model 7S
MANUFACTURER	Electronic Laboratories, Inc., 122 W. New York St., Indianapolis, Ind.
TYPE SET	AC-DC Operated Inter Com-Radio Combination with Loop Antenna
TUBES (SIX)	Types, 14A7 RF Amp., 14Q7 Converter, 14A7 IF Amp., 14F7 Det.-AVC-AF, 50A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1620KC RATING .260 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Turn slugs out completely. Adjust oscillator core until mounted end is 1-5/32" from top of coil form. Adjust RF core until mounted end is 1-29/64" from top of coil form. Preset A5 so that plates of trimmer are at least 1/32" open. Use isolation transformer if available. If not connect a capacitor in series with low side of signal generator and chassis. Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.01 MFD.	High side to Pin 6 (grid) 14A7. Low side to chassis.	455KC	Slugs out completely.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	.01 MFD.	"	"	"	"	A5	Adjust for minimum output.
3	400Ω	High side to ext. loop lead. Low side to ext. ground lead.	1620KC	"	"	A6	Adjust for maximum output.
4	400Ω	"	1400KC	Tune for maximum output.	"	A7	" " " "
5	400Ω	"	700KC	"	"	A8	Adjust for maximum output. Repeat Steps 4 & 5 until no further increase in output is obtained.

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PARTS LIST AND DESCRIPTIONS

ELECTRONIC LABORATORIES
INDIANAPOLIS, INDIANA

TUBES

ITEM No.	USE	REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	14A7	14A7	8V	
2	Converter	14W7	14W7	8AL	
3	IF Amp.	14A7	14A7	8V	
4	Det.-AVC-AF	14F7	14F7	8AC	
5	Power Output	50A5	50A5	6Aa	
6	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ELECT. LABS. PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	150	C-466A	PRSA150-40-	BRD4415	2N511	M-2x40-150	TA-440	Filter-Red
B	40	150		40				" "	" "
8	25	25	C-462A	PRS25-25	BR252A	TC26	M-25-25	TA-25	Cath. Bypass
9	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	Line Bypass
10	.02	200	C-486A	484-02	DT4S2	TP423	S-4-02	TC-12	Output Plate Bypass
11	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	RF Bypass Pwr. Supp.
12	.05	400	C-418A	484-05	DT4S5	TP426	S-4-05	TC-15	Audio Coupling
13	.001	400	C-524A	484-001	DT6D1	TP404	S-6-001	TC-21	" "
14	.005	400	C-480A	484-005	DT6S5	TP406	S-6-005	TC-25	" "
15	.2	400	C-497A	484-.2	DT4P2	TP429	S-4-2	TC-2	Line Isolation
16	.01	600	C-500A	684-01	DT6S1	TP410	S-6-01	TC-11	Osc. Feedback
17	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	AVC Filter
18	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	Audio Plate Decoup.
19	.01	200	C-468A	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
20	250	500	C-494A	1468-00025	SWST25	MC240	MO.5-325	1FM-325	Diode Filter
21	250	500	C-494A	1468-00025	SWST25	MC240	MO.5-325	1FM-325	" "
22	2000	300	C-551A	1467-002	DW5D2	MC457	MW.5-22	1FM-22	Osc. Feedback
23	50	500	C-495A	1468-00005	SW5A5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
24	1000	300	C-493A	1468-001	DW5D1	MC455	MW.5-21	1FM-21	RF Coupling
63	.05	400	C-418A	484-05	DT4S5	TP426	S-4-05	TC-15	Voice Coil Isolation
64	250	500	C-494A	1468-00025	SWST25	MC240	MO.5-325	1FM-325	Audio Plate Bypass

CONTROLS

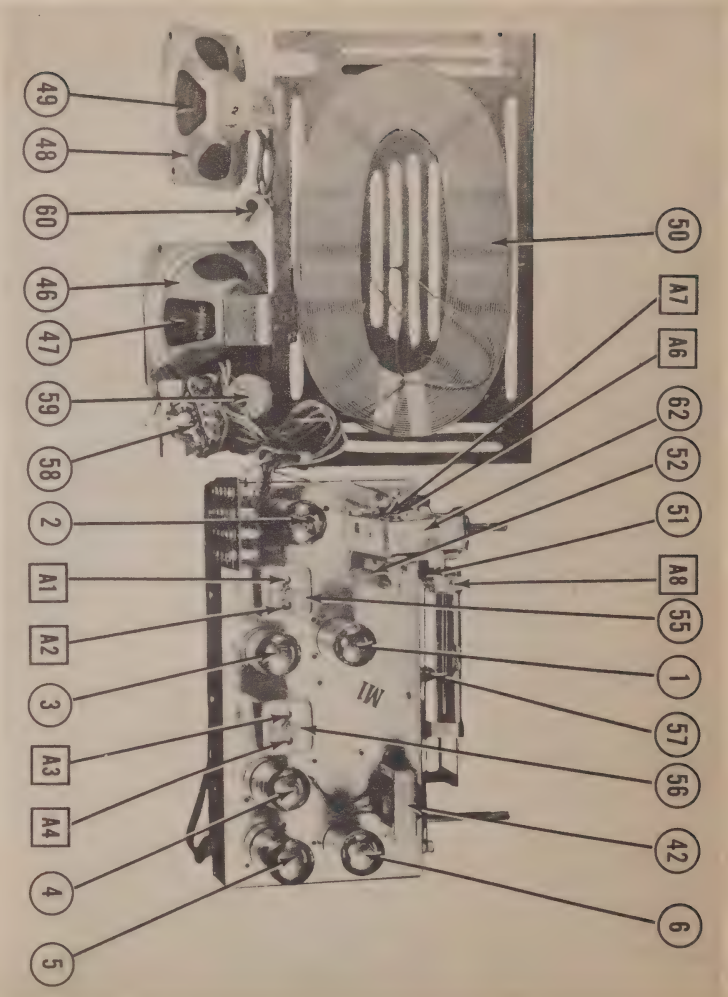
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ELECT. LABS. PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
25A	500KΩ	1	W-484A	MK401	D13-133	AM-60-2	Volume Control
B	Shaft		Not Req.	Not Req.	5	kSS-3	Attach to 24A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ELECT. LABS. PART No.	IRC PART No.	IDENTIFICATION CODES
26	4700Ω	½	W-452A	BTS-4700	Yl.-Vl.-Red RF Plate Load
27	100KΩ	¼	W-439A	BTS-100K	Br.-Blk.-Yl. Converter Grid
28	22KΩ	¼	W-437A	BTS-22K	Red-Red-Or. Oscillator Grid
29	2.2 Meg.	¼	W-442A	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
30	47KΩ	¼	W-438A	BTS-47K	Yl.-Vl.-Or. Diode RF Filter
31	100KΩ	¼	W-439A	BTS-100K	Br.-Blk.-Yl. Series AF Grid
32	10 Meg.	¼	W-443A	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
33	47KΩ	¼	W-438A	BTS-47K	Yl.-Vl.-Or. Tone Compensation
34	500KΩ	¼	W-441A	BTS-470K	Grn.-Blk.-Yl. AF Plate Load
35	100KΩ	¼	W-439A	BTS-100K	Br.-Blk.-Yl. 2nd AF Plate Decoupling
36	500KΩ	¼	W-441A	BTS-470K	Grn.-Blk.-Yl. 2nd AF Plate Load
37	4700Ω	¼	W-452A	BTS-4700	Yl.-Vl.-Red AF Cathode
38	500KΩ	¼	W-441A	BTS-470K	Grn.-Blk.-Yl. Output Grid
39	150Ω	½	W-415A	BW-½-150	Br.-Grn.-Br. Output Cathode
40	470Ω	1	W-451A	BTA-470	Yl.-Vl.-Br. Filter
41	220Ω	½	W-481A	BW-½-220	Red-Red-Br. Pilot Light Shunt-See Note

Note-Not used in all models.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TONE CHOKE

ITEM NO.	RATINGS: D.C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000~)	REPLACEMENT DATA: ELECT. LABS. PART NO.	REPLACEMENT DATA: STANCOR PART NO.	REPLACEMENT DATA: THORDARSON PART NO.	INSTALLATION NOTES
42	800Ω	19 Henries	T-1381A	C-1003*	T20C53*	*Drill one new mounting hole.

TRANSFORMER (AUDIO)

ITEM No.	RATING: TURNS RATIO PRI. TO SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	REPLACEMENT DATA:	INSTALLATION NOTES
43A	150 to 1	600Ω	.4Ω	TR-4280				
B				TR-3500A				Alternate Transformer

TRANSFORMER (MICROPHONE)

ITEM No.	RATING: TURNS RATIO PRI. TO SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	REPLACEMENT DATA:	INSTALLATION NOTES
44A	1 to 150	.4Ω	600Ω	TR-4280				
B				TR-3500A				Alternate Transformer

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	REPLACEMENT DATA:	INSTALLATION NOTES
45	2000Ω	3.7Ω	190Ω	.7Ω	T-1368A	A-3876	T22S45		

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA: JENSEN PART No.	REPLACEMENT DATA:	INSTALLATION NOTES
	FIELD	VC IMP.				
46	PM	3.7Ω	H258A			
	CONE DIA.	VC DIA.				
47	6"x4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
	FIELD	VC IMP.		ST-113		
48	PM	3.7Ω	H252	Mod. P4-X		
	CONE DIA.	VC DIA.				
49	4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA: MEISSNER PART No.	
50	Loop Ant.	.12	1.2Ω	A-2260A		
51	Ant. Coil		26Ω	A-2262A		Items 51 & 52 are ganged and slug tuned.
52	Osc. Coil		3.5Ω	A-2262A		
53	RF Choke		47Ω	T-1372A		
54	RF Choke		22Ω	T-1365A		
55	Input IF	15.5Ω	18Ω	T-1361A	16-6658	
56	Output IF	15.5Ω	15.5Ω	T-1362A	16-6660	

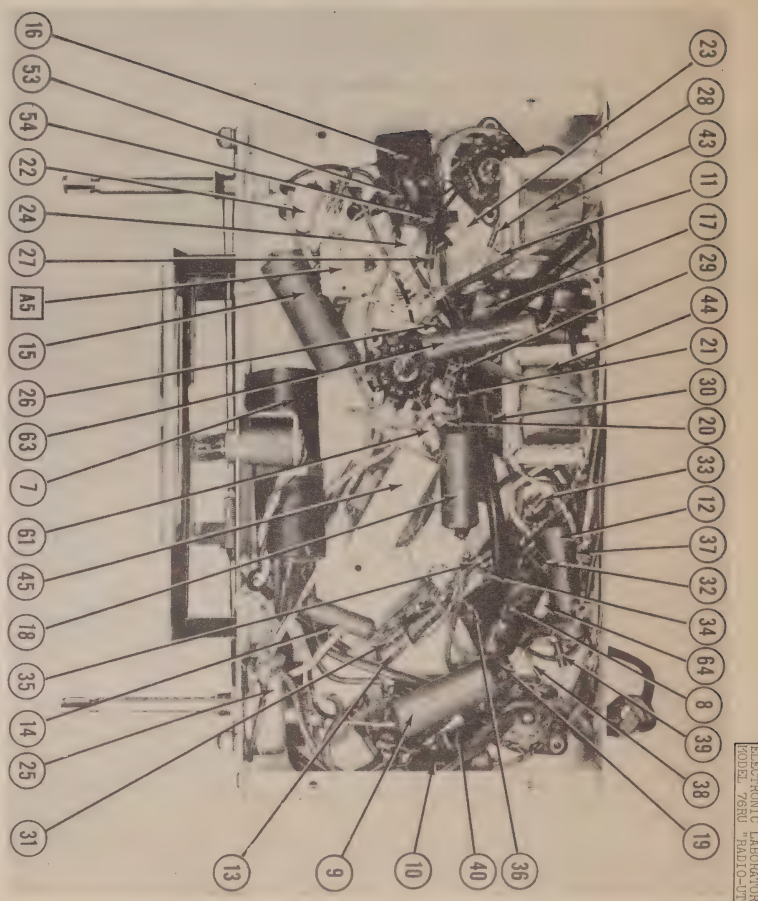
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA:	INSTALLATION NOTES
57	Bayonet	6-8	0.15	Brown	H-241A		Type 47

MISCELLANEOUS

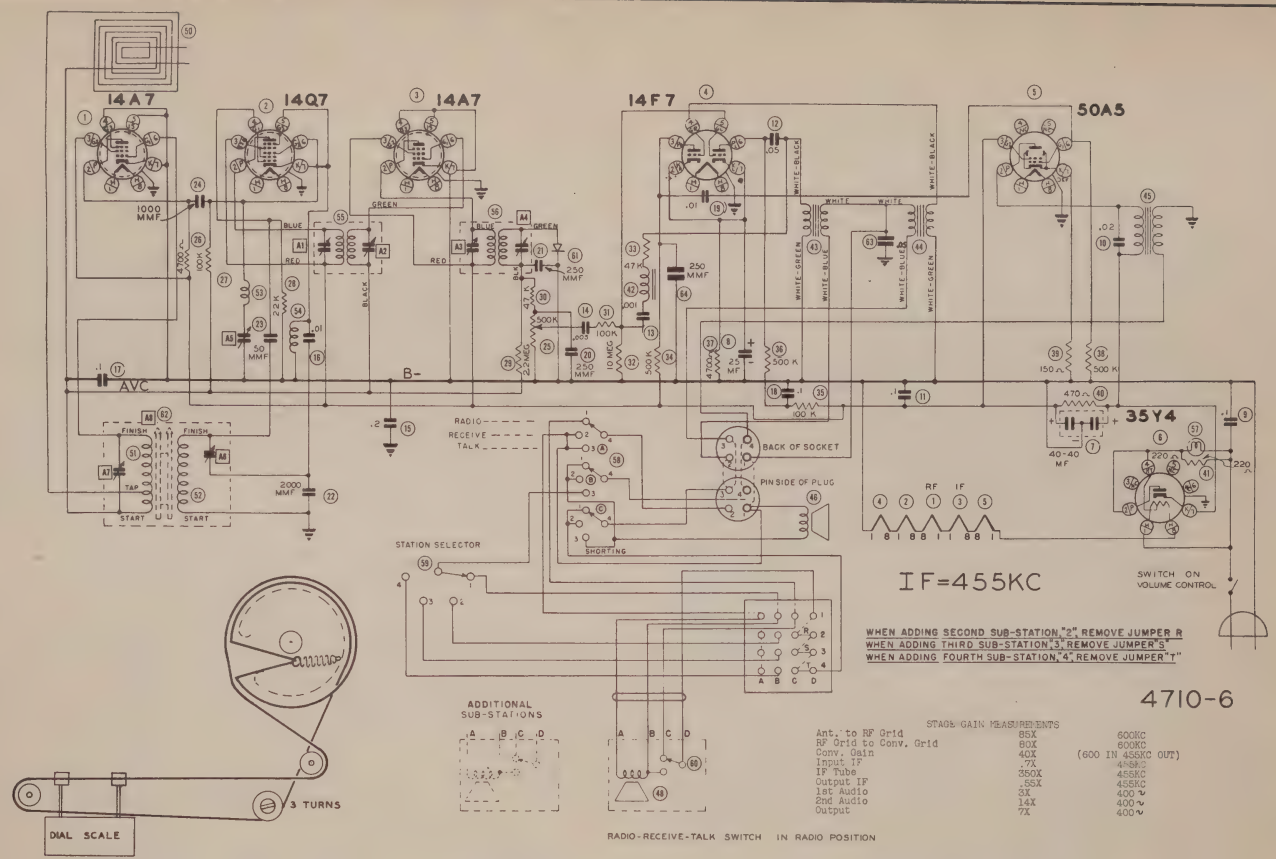
ITEM No.	PART NAME	ELECT. LABS. PART No.	NOTES
58	Switch	E-171A	Function Selector-3 Position
59	Switch	E-172A	Station Selector-4 Position
60	"		Sub-Station
61	XTAL Detector	H-257A	Germanium - Sylvania Type 1N34
62	Tuner Unit	A-2262A	

CHASSIS—BOTTOM VIEW



ELECTRONIC LABORATORIES
MODEL 76RU "RADIO-UTILIPHONE"

ELECTRONIC LABORATORIES
MODEL 76RU "RADIO-UTILIPHONE"



STAGE GAIN MEASUREMENTS

Ant. to RF Grid	85X	600KC
RF Grid to Conv. Grid	80X	600KC
Conv. Gain	40X	(600 IN 455KC OUT)
Input IF	7X	455KC
IF Tube	350X	455KC
Output IF	55X	455KC
1st Audio	3X	400 ~
2nd Audio	14X	400 ~
Output	7X	400 ~

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	33V.AC	52V.DC	108V.DC	0V.	0V.	-.8V.DC	0V.	22V.AC
2	14Q7	12V.AC	108V.DC	108V.DC	-3.7V.DC	.3V.DC	-2.2V.DC	.3V.DC	22V.AC
3	14A7	33V.AC	108V.DC	108V.DC	0V.	0V.	-2.2V.DC	0V.	44V.AC
4	14F7	0V.	.9V.DC	45V.DC	0V.	0V.	47V. DC	.9V.DC	12V.AC
5	50A5	90V.AC	112V.DC	108V.DC	0V.	0V.	0V.	6.2V.DC	44V.AC
6	35Y4	117V.AC	112V.AC	0V.	112V.AC	0V.	120V.DC	120V.DC	90V.AC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

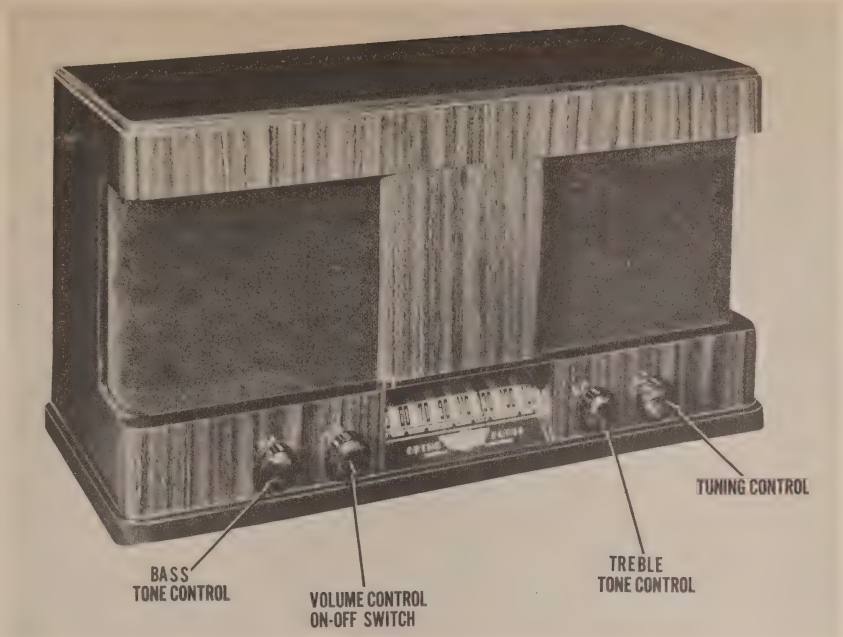
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	41Ω	155KΩ	150KΩ	0Ω	0Ω	2.3MEG.	0Ω	28Ω
2	14Q7	12Ω	150KΩ	150KΩ	18KΩ	21Ω	2.5MEG.	21Ω	28Ω
3	14A7	41Ω	150KΩ	150KΩ	0Ω	0Ω	2.3MEG.	0Ω	56Ω
4	14F7	0Ω	5KΩ	650KΩ	450Ω	10MEG.	650KΩ	5KΩ	12Ω
5	50A5	120Ω	150KΩ	150KΩ	INF.	INF.	479KΩ	115Ω	56Ω
6	35Y4	160Ω	150Ω	INF.	150Ω	INF.	150KΩ	150KΩ	120Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

ELECTRONIC LABORATORIES
MODELS 710-B, -M, -T, -W ORTHOSONIC



ELECTRONIC LABORATORIES
MODELS 710-B, -M, -T, -W ORTHOSONIC

ELECTRONIC LABS. MODEL 710-W

TRADE NAME	Electronic Labs., Models 710-B, 710-M, 710-T, 710-W Orthosonic (Ch. 2875)
MANUFACTURER	Electronic Laboratories, Inc., 122 W. New York St., Indianapolis, Indiana
TYPE SET	AC-DC Operated Superheterodyne Receiver with Phonograph Provisions
TUBES (TEN)	Types, 12SK7GT RF Amp., 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-Treble Amp., 12SQ7GT Bass Amp., 12SQ7GT Phase Inv., (2) 50L6GT Power Output, (2) 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC - DC
TUNING RANGE—BROADCAST	540-1620KC RATING .510 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.01 MFD.	High side to Pin 4 (grid) 12SK7 (RF Tube). Low side to B-.	455KC	Tuning slugs out completely.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	.01 MFD.	"	"	"	"	A5	Adjust for minimum output.
3	400Ω	High side to ext. ant. terminal. Low side to ext. ground terminal.	1620KC	"	"	A6	Adjust for maximum output.
4	400Ω	"	1400KC	Tune for maximum output.	"	A7	" " " "
5	400Ω	"	700KC	"	"	A8	Adjust for maximum output. Repeat Steps 2, 3, 4 and 5 until no further increase in output is obtained.

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 6, Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: ELECT. LABS. PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SK7GT	12SK7GT	8N	
2	Converter	12SA7GT	12SA7GT	8AD	
3	IF Amp.	12SK7GT	12SK7GT	8N	
4	Det.-AVC-Treble Amp.	12SQ7GT	12SQ7GT	8Q	
5	Bass Amp.	12SQ7GT	12SQ7GT	8Q	
6	Phase Inv.	12SQ7GT	12SQ7GT	8Q	
7	Power Output	50L6GT	50L6GT	7AC	
8	Power Output	50L6GT	50L6GT	7AC	
9	Rectifier	35Z5GT	35Z5GT	6AD	
10	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

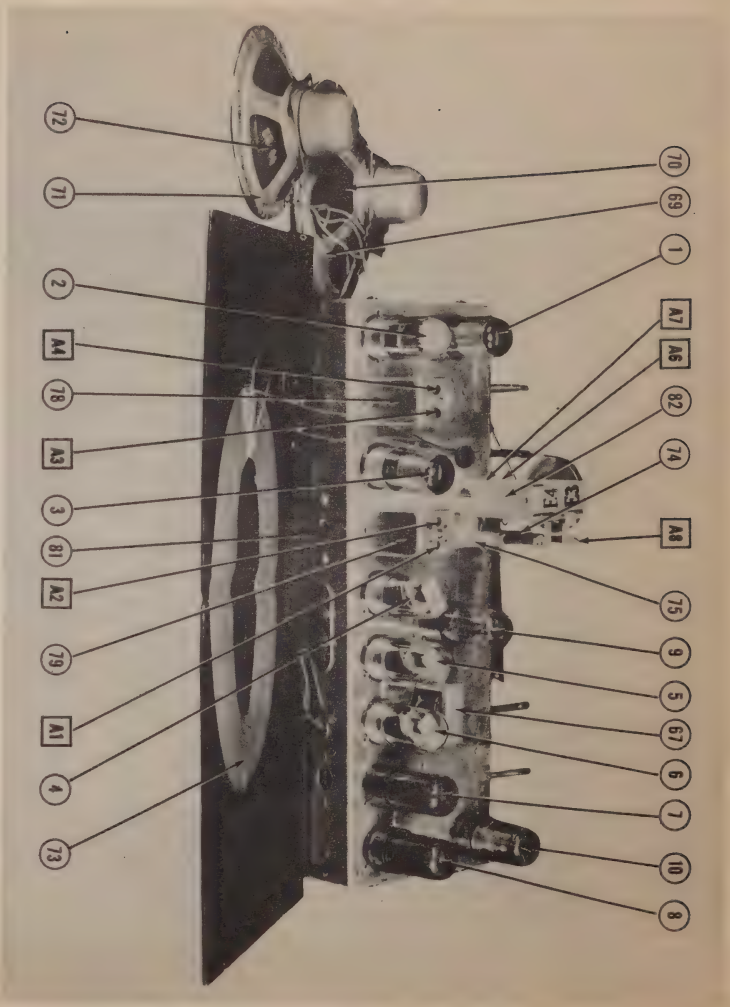
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ELECT. LABS. PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
11A	40	150	C-466A	PRSA150-40-40	BRD4415	2N511	M-2x40-150	TA-440	Filter - White
B	40	150							" "
12A	40	150	C-466A	PRSA150-40-40	BRD4415	2N511	M-2x40-150	TA-440	" "
B	40	150							" "
13	25	25	C-462A	PRS25-25	BR252A	TC26	M-25-25	TA-25	Cath. Bypass
14	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	Line Filter
15	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	Output Screen Bypass
16	.01	200	C-468A	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
17	.1	200	C-460A	484-.1	DT4P1	TP428	S-4-1	TC-1	" "
18	.01	200	C-468A	484-01	DT4S1	TP421	S-4-01	TC-11	" "
19	.001	400	C-524A	484-001	DT6D1	TP404	S-6-001	TC-21	" "
20	.05	200	C-467A	484-05	DT4S5	TP426	S-4-05	TC-15	" "
21	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	RF Bypass Pwr. Supp.
22	.003	400	C-523A	484-003	DT6D3	TP406	S-6-003	TC-23	Tone Compensation
23	.05	400	C-418A	484-05	DT4S5	TP426	S-4-05	TC-15	Audio Coupling
24	.01	400	C-500A	484-01	DT4S1	TP421	S-4-01	TC-11	Tone Compensation
25	.001	400	C-524A	484-001	DT6D1	TP404	S-6-001	TC-21	Audio Coupling
26	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	Phono Isolation
27	.01	200	C-468A	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
28	.05	200	C-467A	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
29	.2	400	C-497A	484-.2	DT4P2	TP429	S-4-2	TC-2	Line Isolation
30	.01	400	C-500A	484-01	DT4S1	TP421	S-4-01	TC-11	Osc. Feedback
31	.1	400	C-471A	484-.1	DT4P1	TP428	S-4-1	TC-1	RF Screen Bypass
32	.1	200	C-460A	484-.1	DT4P1	TP428	S-4-1	TC-1	AVC Filter
33	250	500	C-494A	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Tone Compensation
34	250	500	C-494A	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Diode Filter
35	100	500	C-492A	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Audio Plate Bypass
36	2000	300	C-531A	1467-002	1W5D2	MC457	MW.5-22	1FM-22	Osc. Feedback
37	50	500	C-495A	1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
38	1000	300	C-493A	1468-001	1W5D1	MC255	MW.5-21	1FM-21	RF Coupling

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ELECT. LABS. PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
39A	500KΩ	1	W-489A	MK401	D13-133	AM-60- Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 39A per instructions
C	Switch		" "	M26	41	SW-A	" " "
40A	1 Meg.	1	W-476A	MK402	D13-137	AM-63-Z	Bass Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 40A per instructions
41A	1 Meg.	1	W-476A	MK402	D13-137	AM-63-Z	Treble Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 41A per instructions

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ELECT. LABS. PART No.	IRC PART No.	
42	10KΩ	½		BTS-10K	Br.-Blk.-Yl. RF Screen Dropping-See Note
43	4700Ω	½	W-452A	BTS-4700	Yl.-Vi.-Red RF Plate Load
44	100KΩ	½	W-439A	BTS-100K	Br.-Blk.-Yl. Converter Grid
45	22KΩ	½	W-437A	BTS-22K	Red-Red-Or. Oscillator Grid
46	2.2 Meg.	½	W-442A	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
47	2.2 Meg.	½	W-442A	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
48	47KΩ	½	W-438A	BTS-47K	Yl.-Vi.-Or. Diode RF Filter
49	470KΩ	½	W-441A	BTS-470K	Yl.-Vi.-Yl. Diode Load
50	4.7 Meg.	½	W-480A	BTS-4.7 Meg.	Yl.-Vi.-Grn. Treble Amp. Grid
51	33KΩ	½	W-478A	BTS-33K	Or.-Or.-Or. Tone Compensation
52	4.7 Meg.	½	W-480A	BTS-4.7 Meg.	Yl.-Vi.-Grn. Bass Amp. Grid
53	330KΩ	½	W-468A	BTS-330K	Or.-Or.-Yl. Bass Amp. Plate Load
54	470KΩ	½	W-441A	BTS-470K	Yl.-Vi.-Yl. Treble Amp. Plate Load
55	470KΩ	½	W-441A	BTS-470K	Yl.-Vi.-Yl. Phase Inverter Plate Load
56	4700Ω	½	W-452A	BTS-4700	Yl.-Vi.-Red Phase Inverter Cathode
57	470KΩ	½	W-441A	BTS-470K	Yl.-Vi.-Yl. Phase Inverter Grid
58	220KΩ	½	W-440A	BTS-220K	Red-Red-Yl. Isolation
59	220KΩ	½	W-440A	BTS-220K	Red-Red-Yl. "
60	220KΩ	½	W-440A	BTS-220K	Red-Red-Yl. Output Grid
61	270KΩ	½	W-477A	BTS-270K	Red-Vi.-Yl. Output Grid
62	220KΩ	½	W-440A	BTS-220K	Red-Red-Yl. Output Grid
63	75Ω	1	W-479A	BW-1-82	Vi.-Grn.-Blk. Output Cathode
64	1000Ω	1	W-433A	BTA-1000	Br.-Blk.-Red Filter
65	220Ω	½	W-481A	BW-½-220	Red-Red-Br. Filter
66	470Ω	½	W-473A	BTS-470	Yl.-Vi.-Br. Pilot Light Shunt

Note-Some models use 15KΩ in this application. IRC replacement BTS-15K.

TONE CHOKE

ITEM NO.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000ↄ)	ELECT. LABS. PART NO.	STANCOR PART NO.	THORDARSON PART NO.	
67	350Ω	4 Henries	C-1706			

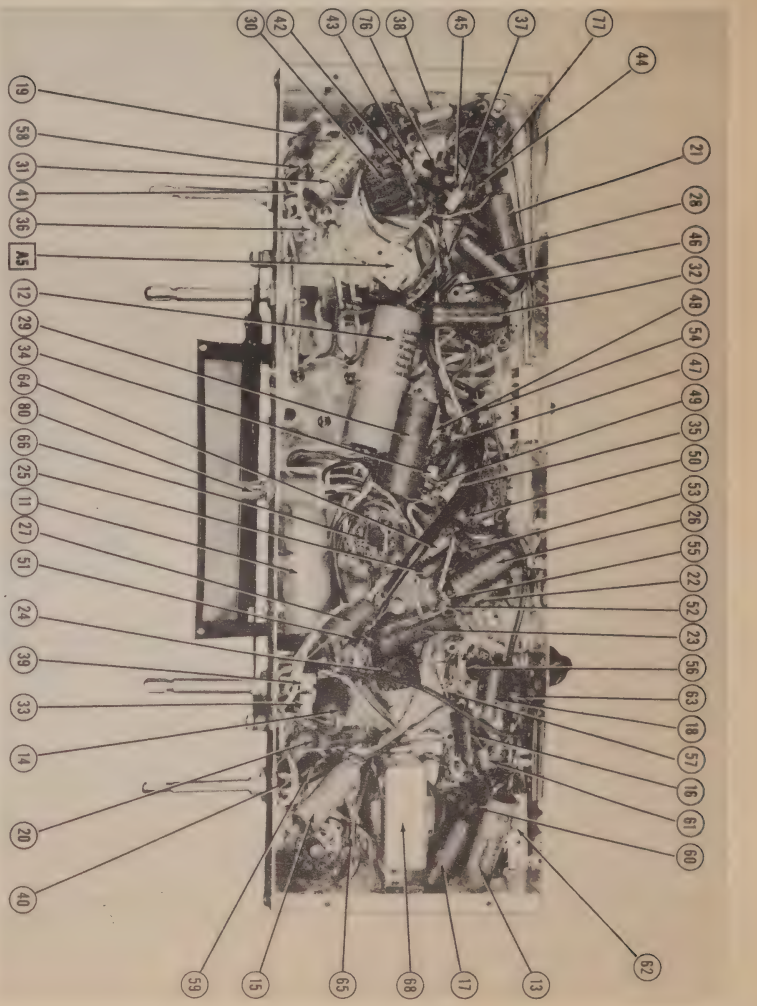
TRANSFORMER (OUTPUT)

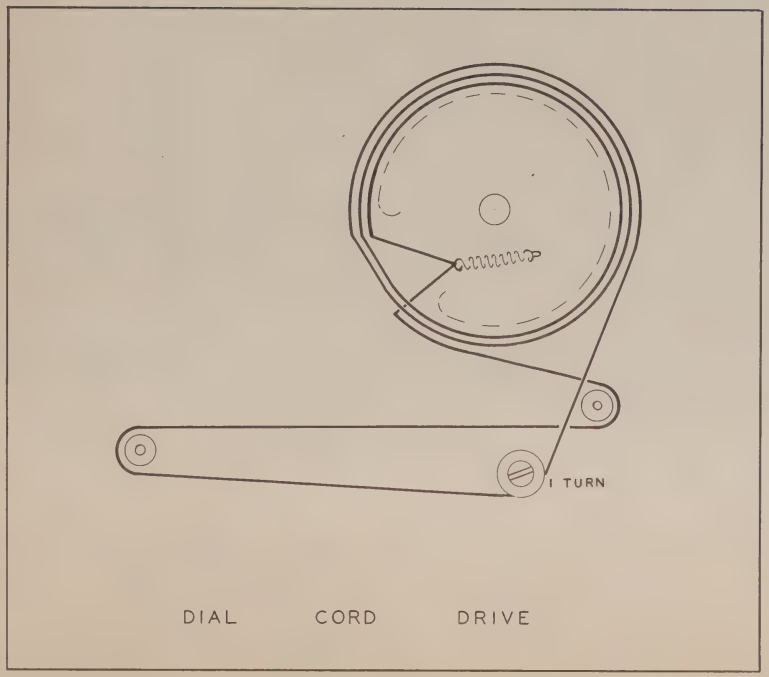
ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ELECT. LABS. PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
68	4000Ω CT	7.2Ω	240Ω CT	.75Ω	T-1379A	A-3823	T22S60*		*Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ELECT. LABS. PART No.	JENSEN PART No.		
69	FIELD PM	VC IMP. 3.6Ω	H-254A	ST-108 Mod. P6-X		
70	CONE DIA. 6"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			
71	FIELD PM	VC IMP. 3.6Ω	H-255A	ST-107 Mod. P5-V		
72	CONE DIA. 4-3/4"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

CHASSIS—BOTTOM VIEW





DIAL CORD DRIVE

RADIO-PHONO SWITCH IN RADIO POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7GT	0V.	24V. AC	0V.	-.7V. DC	0V.	90V. DC	12V. AC	70V. DC
2	12SA7GT	0V.	36V. AC	111V. DC	111V. DC	-3.4V. DC	3 V. DC	24V. AC	-2.1V. DC
3	12SK7GT	0V.	36V. AC	0V.	-2.3V. DC	0V.	111V. DC	4.8V. AC	111V. DC
4	12SQ7GT	0V.	-.8V. DC	0V.	-.7V. DC	-.7V. DC	83V. DC	12V. AC	0V.
5	12SQ7GT	0V.	-1V. DC	0V.	0V.	0V.	65V. DC	12V. AC	0V.
6	12SQ7GT	0V.	0V.	.6V. DC	0V.	0V.	50V. DC	12V. AC	24V. AC
7	50L6GT	0V.	73V. AC	118V. DC	117V. DC	0V.	0V.	117V. AC	7V. DC
8	50L6GT	0V.	73V. AC	118V. DC	117V. DC	0V.	0V.	24V. AC	7V. DC
9	35Z5GT	0V.	117V. AC	113V. AC	0V.	113V. AC	0V.	85V. AC	138V. DC
10	35Z5GT	0V.	48V. AC	57V. AC	0V.	117V. AC	0V.	85V. AC	120V. DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7GT	INF.	21Ω	0Ω	4.5MEG	0Ω	50KΩ	11Ω	45KΩ
2	12SA7GT	INF.	29Ω	40KΩ	40KΩ	20KΩ	23Ω	21Ω	2.5MEG
3	12SK7GT	INF.	29Ω	0Ω	2.5MEG	0Ω	40KΩ	36Ω	40KΩ
4	12SQ7GT	INF.	4.5MEG.	0Ω	500KΩ	500KΩ	500KΩ	11Ω	0Ω
5	12SQ7GT	INF.	4.5MEG.	0Ω	0Ω	0Ω	370KΩ	11Ω	0Ω
6	12SQ7GT	INF.	390KΩ	4.7KΩ	0Ω	0Ω	500KΩ	11Ω	21Ω
7	50L6GT	INF.	46Ω	80KΩ	80KΩ	450KΩ	INF	54Ω	65Ω
8	50L6GT	INF.	46Ω	80KΩ	80KΩ	360KΩ	INF	21Ω	65Ω
9	35Z5GT	0Ω	54Ω	54Ω	0Ω	54Ω	0Ω	50Ω	40KΩ
10	35Z5GT	0Ω	36Ω	40Ω	0Ω	54Ω	0Ω	50Ω	80KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

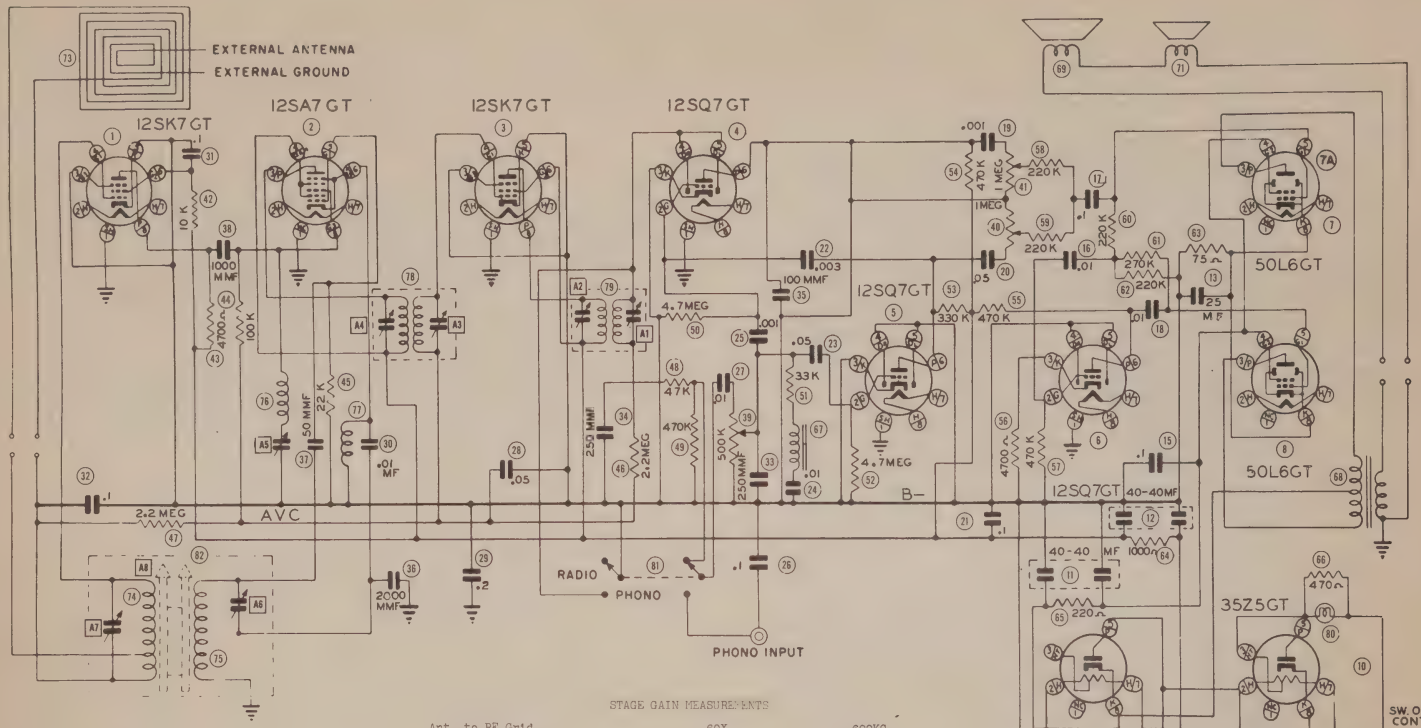
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ELECT. LABS. PART No.	REPLACEMENT DATA MEISSNER PART No.	
73	Loop Ant.	.2Ω	1.2Ω	A-2221A		Items 74 & 75 are ganged together and are part of tuner assby. Part No. A-2220A
74	Ant. Coil		26Ω			
75	Osc. Coil		3.5Ω			
76	RF Choke		47Ω	T-1372A		
77	" "		22Ω	T-1365A		
78	Input IF	15.5Ω	18Ω	T-1361A	16-6658	
79	Output IF	15.5Ω	15.5Ω	T-1362A	16-6660	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA ELECT. LABS. PART No.	REPLACEMENT DATA	INSTALLATION NOTES
80	Bayonet	6-8	0.15	Brown	H-241A		Type 47

MISCELLANEOUS

ITEM No.	PART NAME	ELECT. LABS. PART No.	NOTES
81	Switch	E-170A	Radio-Phono (DPDT)
82	Tuner Assembly	A-2220A	
A5	Trimmer	C-483B	10-160MMF-Wave Trap Adj.



STAGE GAIN MEASUREMENTS

Ant. to RF Grid	60X	600KC
RF Grid to Conv. Grid	10X	600KC
Conv. Gain	30X	(600KC IN 455KC OUT)
Input IF	.66X	455KC
IF Grid to Diode	250X	455KC
Treble	32X	400~
Bass	24X	400~
Output	7X	400~

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4710-7

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

EMERSON
MODELS 525, 552

MODEL 552

MODEL 525

EMERSON MODEL 552

TRADE NAME	Emerson, Model 525, 552
MANUFACTURER	Emerson Radio & Phono Corp., 111 Eigth Ave., New York, N.Y.
TYPE SET	AC Operated Phono-Radio Combination Superheterodyne with Loop Antenna
TUBES (FIVE)	Types, 12SA7 Converter, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC
TUNING RANGE—BROADCAST	540-1620KC RATING .250 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum position, output of signal generator should be no higher than is necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to B-.	455KC	Tuning cap. open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	200MMFD.	High side to ext. ant. lead. Low side to ext. gnd. lead.	1500KC	1500KC	"	A5	Adjust for maximum output.
3	200MMFD.	"	1400KC	Tune for maximum output.	"	A6	" " " "

DISASSEMBLY INSTRUCTIONS

1. Remove four push-on type control knobs.
2. Remove four Phillips head screws holding chassis mounting board to bottom of cabinet. Remove mounting board.
3. Disconnect phono-motor plug.
4. Remove phono-pickup plug from chassis.
5. Remove three Phillips head screws holding chassis to mounting board.
6. Unsolder line cord from chassis.

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PARTS LIST AND DESCRIPTIONS

EMERSON MODELS 525, 552

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	Det.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	or 50A5 Alternate
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	30	150	925110	PRSA150-50-30	BRD3515	2N520	M-5030-150	TA-530	Filter - Red*
B	50	150							" - Green
7	.05	400	920030	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
8	.02	400	920020	484-02	DT4S2	TP423	S-4-02	TC-12	Output Plate Bypass
9	.02	400	920020	484-02	DT4S2	TP423	S-4-02	TC-12	Audio Coupling
10	.0005	600	920240	1468-0005	DT6T5	TP403	S-6-0005	TC-35	Audio Plate Bypass
11	.002	400	920515	484-002	DT6D2	TP405	S-6-002	TC-22	Tone Compensation
12	.002	600	920010	684-002	DT6D2	TP405	S-6-002	TC-22	Audio Coupling
13	.05	400	920030	484-05	DT4S5	TP426	S-4-05	TC-15	Phono Isolation
14	.1	200	920040	484-.1	DT4P1	TP428	S-4-1	TC-1	AVC Filter
15	.2	200	920050	484-.2	DT4P2	TP428	S-4-2	TC-2	Line Isolation Trap ‡
16	.05	400	922090	484-05	DT4S5	TP426	S-4-05	TC-15	Motor Isolation †
17	220	500	910000	1468-0002	SW5T2	MC237	M0.5-322	1FM-32	Diode Filter

*Early models may use Part # 925267 Filter Capacitor
†All models after Serial No. 8550551 Item (16) will become Part #922101
‡The choke on the isolation trap is not used on models when the 1st & 2nd IF Trans. are Part Nos. 720525 and 720529.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18A	500KΩ	1	390010	UM156	D11-133	AM-58-S	Volume Control
B	Shaft		Not Req.	SS25	E	KSS-3	Attach to 18A per instructions
C	Switch		" "	M26	41	SW-A	" " " "

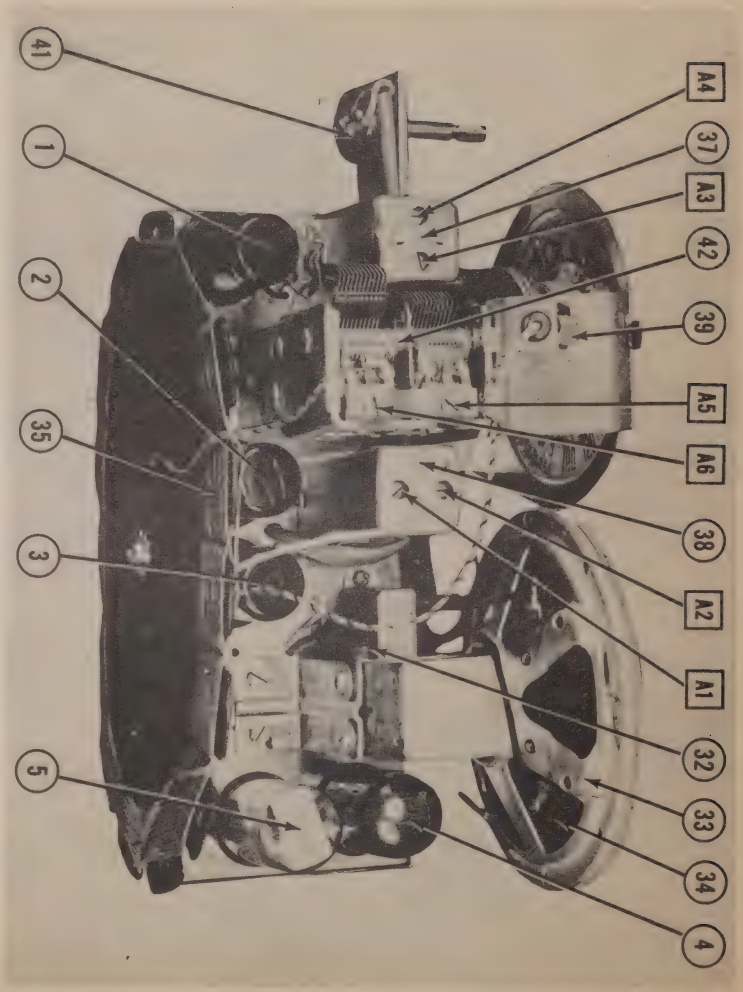
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	IRC PART No.	IDENTIFICATION CODES
19	22KΩ	½	310810	BTS-22KΩ	Red-Red-Or. Oscillator Grid
20	220KΩ	½	321050	BTS-220K	Red-Red-Yl. Line Isolation
21	15 Meg.	½	397000	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
22	3.3 Meg.	½	321330	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
23	15 Meg.	½	397000	BTS-15 Meg.	Br.-Grn.-Blue AF Grid
24	470KΩ	½	321130	BTS-470K	Yl.-Vi.-Yl. AF Plate Load
25	470KΩ	½	321130	BTS-470K	Yl.-Vi.-Yl. Output Grid
26	150Ω	½	340290	BW-½-150	Br.-Grn.-Br. Output Cathode
27	2.2 Meg.	½	321290	BTS-2.2 Meg.	Red-Red-Grn. Tone Compensation
28	1000Ω	1	370490	BTA-1000	Br.-Blk.-Red Filter
29	1 Meg.	½	321210	BTS-1 Meg.	Br.-Blk.-Grn. Series Phono
30	10Ω	½	340010	BW-½-10	Br.-Blk.-Blk. Series Pilot Light
31	15Ω	½	340050	BW-½-15	Br.-Grn.-Blk. Rectifier Ballast

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: EMERSON PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
32	2050Ω	3.2Ω	180Ω tapped @ 5Ω	.6Ω	734200	A-3876 ♦			Add extra filter to reduce hum level.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: EMERSON PART No.	JENSEN PART No.		INSTALLATION NOTES
33	FIELD PM	VC IMP. 3.2Ω	180000	ST-107 § Mod. P5-V		§ Fabricate new mounting bracket.
34	CONE DIA. 4-5/8"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

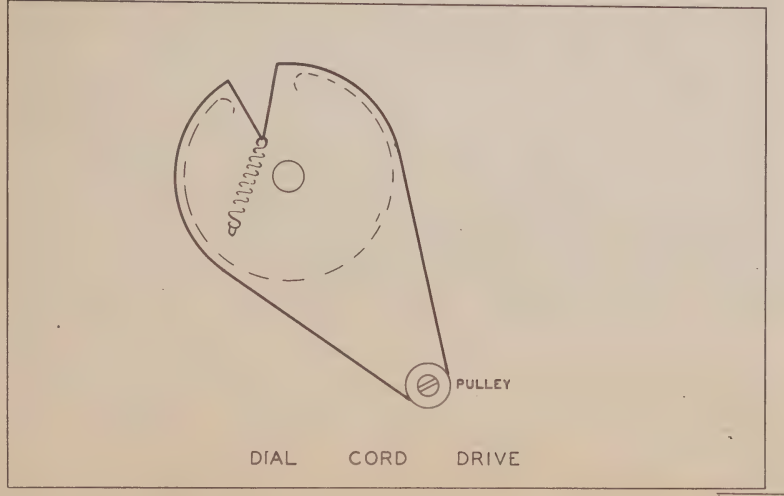
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: EMERSON PART No.	MEISSNER PART No.	
35	Loop Ant.	.1Ω	2.8Ω	700000		
36	Osc. Coil	.5Ω	5.5Ω	716010	14-1040	Add 50 MMFD from grid to high side tuning cap.
37	Input IF	28Ω	18Ω	720000	16-6666	
38	Output IF	23Ω	22Ω	720100	16-6667	

DIAL LIGHT

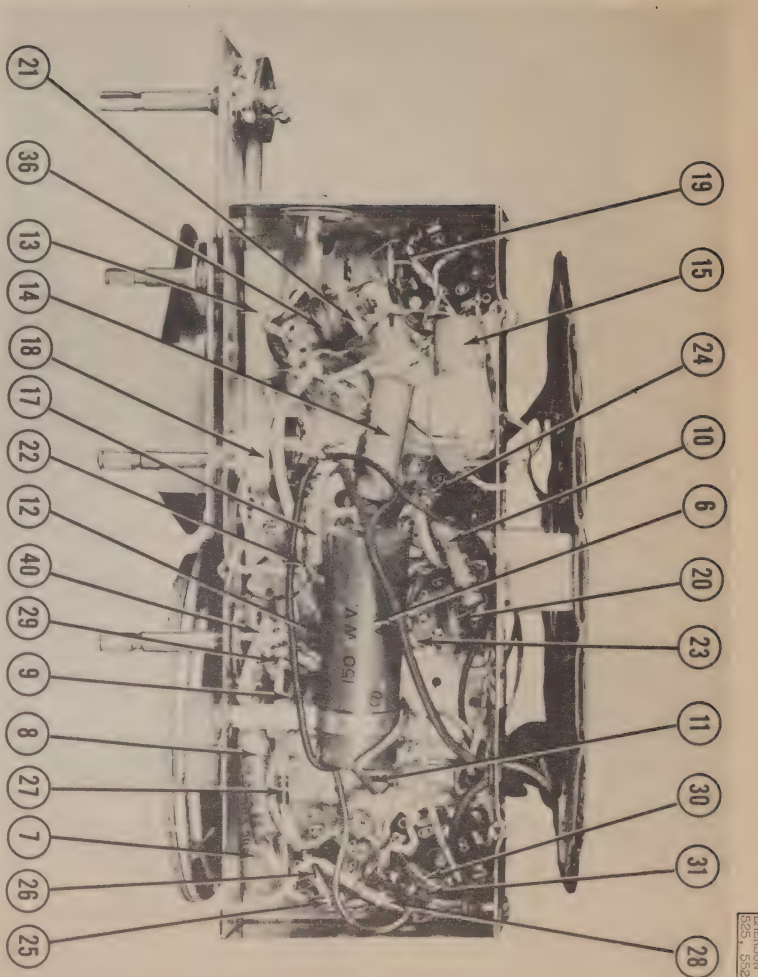
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: EMERSON PART No.		INSTALLATION NOTES
39	Bayonet	6-8	0.15	Brown	807000		Type 47

MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
40	Switch	510390	Radio-Phono
41	Switch	510130	Tone
42	2 Gang Var. Cap	900290	25-380 MMF, 25-188 MMF
	Record Changer	819019	
	Crystal Cartridge		Astatic L-70-S

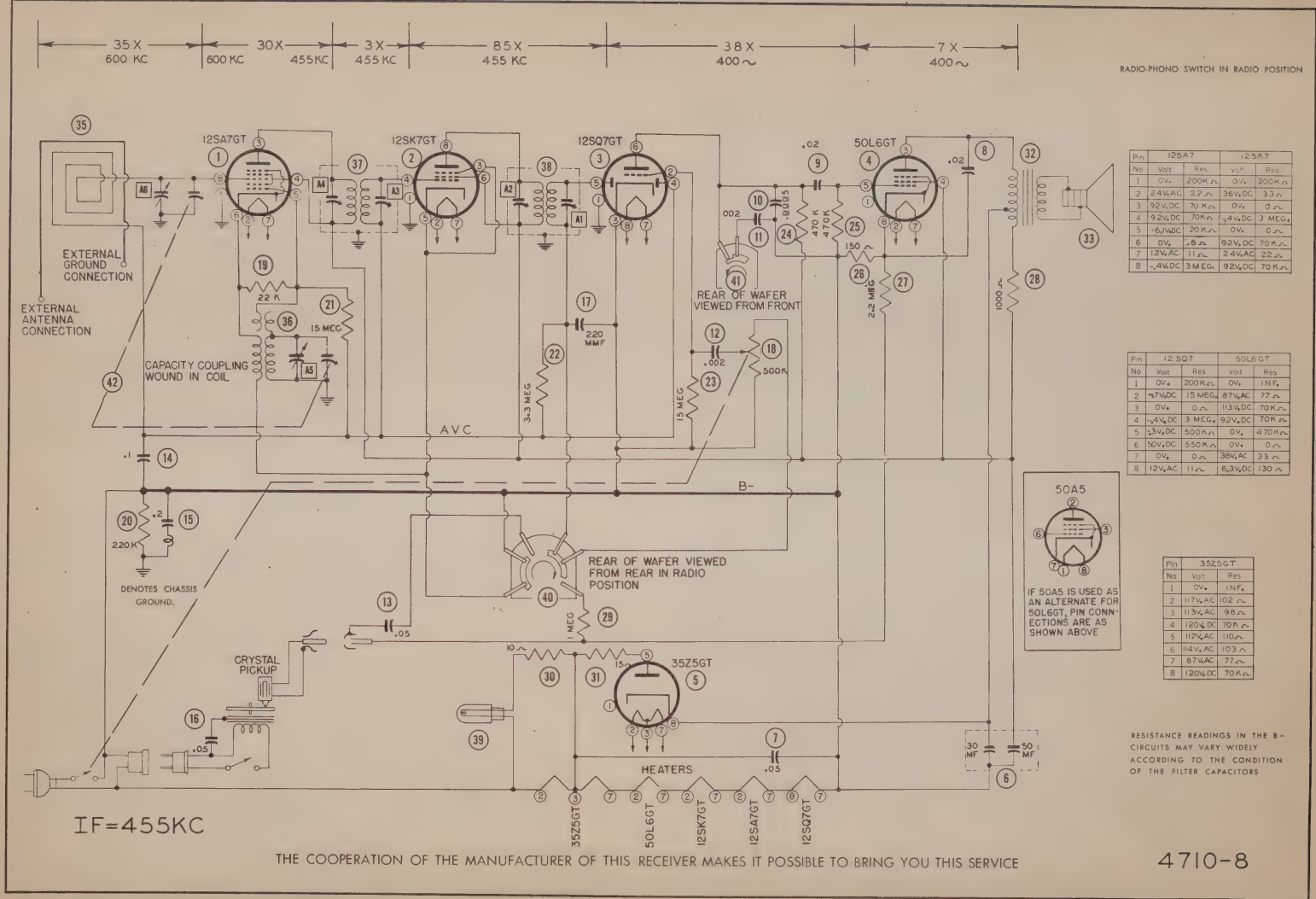


CHASSIS—BOTTOM VIEW



EMERSON MODELS 825, 552

EMERSON MODELS 825, 552



Pin No	12SA7 Volt	12SA7 Res	12SK7 Volt	12SK7 Res
1	0V.	200K Ω	0V.	200K Ω
2	24V. AC	22 Ω	36V. DC	33 Ω
3	92V. DC	70 KΩ	0V.	0 Ω
4	92V. DC	70KΩ	-4V. DC	3 MEG.
5	-8.1V. DC	20 KΩ	0V.	0 Ω
6	0V.	26 Ω	92V. DC	70 KΩ
7	12V. AC	11 Ω	24V. AC	22 Ω
8	-.4V. DC	3 MEG.	92V. DC	70 KΩ

Pin No	12SQ7 Volt	12SQ7 Res	50L6GT Volt	50L6GT Res
1	0V.	200KΩ	0V.	INF.
2	87V. DC	15 MEG.	87V. AC	77 Ω
3	0V.	0 Ω	113V. DC	70KΩ
4	-.4V. DC	3 MEG.	92V. DC	70K Ω
5	13V. DC	500 KΩ	0V.	470KΩ
6	50V. DC	350 KΩ	0V.	0 Ω
7	0V.	0 Ω	36V. AC	33 Ω
8	12V. AC	11 Ω	6.3V. DC	130 Ω

Pin No	35Z5GT Volt	35Z5GT Res
1	0V.	INF.
2	117V. AC	102 Ω
3	113V. AC	98 Ω
4	120V. DC	70K Ω
5	112V. AC	110 Ω
6	114V. AC	103 Ω
7	87V. AC	77 Ω
8	120V. DC	70K Ω

RESISTANCE READINGS IN THE B- CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

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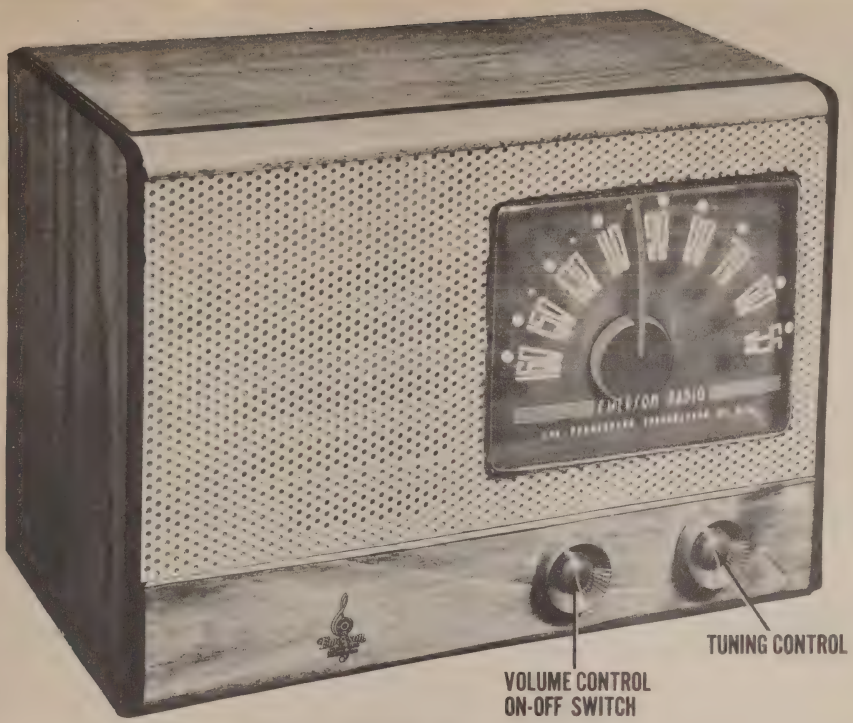
4710-8

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



EMERSON MODEL 535

TRADE NAME	Emerson, Model 535
MANUFACTURER	Emerson Radio & Phono Corp., 111 Eigth Ave., New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types, 12BE6 Converter, 12BA6 IF Amp., 12AT6 Det.-AVC-AF, 50B5 Power Output, 35W4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	535-1620KC RATING .220 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS--READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap. fully closed and set pointer parallel with base of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to stator of front section of tuning cap. Low side to B-.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	200MFD.	High side to ext. ant. lead. Low side to ext. grnd. lead.	1620KC	"	"	A5	Adjust for maximum output.
3	200MFD.	"	1400KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

EMERSON MODEL 535

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12BE6	12BE6	7CH	
2	IF Amp.	12BA6	12BA6	7BK	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4	Power Output	50B5	50B5	7BZ	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	30	150	925000	PRSA150-50-30	BRD3515	2N520	M-5030-150	TA-530	Filter - Red
B	50	150							" - Green
7	.05	400	920030	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
8	.02	400	920020	484-02	DT4S2	TP423	S-4-02	TC-12	Output Plate Bypass
9	.02	400	920020	484-02	DT4S2	TP423	S-4-02	TC-12	Audio Coupling
10	.0005	600	922040	1468-0005	DT6T5	TP403	S-6-0005	TC-35	Audio Plate Bypass
11	.002	600	920010	684-002	DT6D2	TP405	S-6-002	TC-22	Audio Coupling
12	.1	200	920040	484-.1	DT4P1	TP428	S-4-1	TC-1	AVC Filter
13	.2	200	920050	484-.2	DT4P2	TP429	S-4-2	TC-2	Line Isolation
14	220	500	910000	1468-0002	SW5T2	MC237	MO.5-322	1FM-32	IF Bypass Vol. Cont.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
15A	500KΩ	1	390000	MK401	D13-133	AM-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 15A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

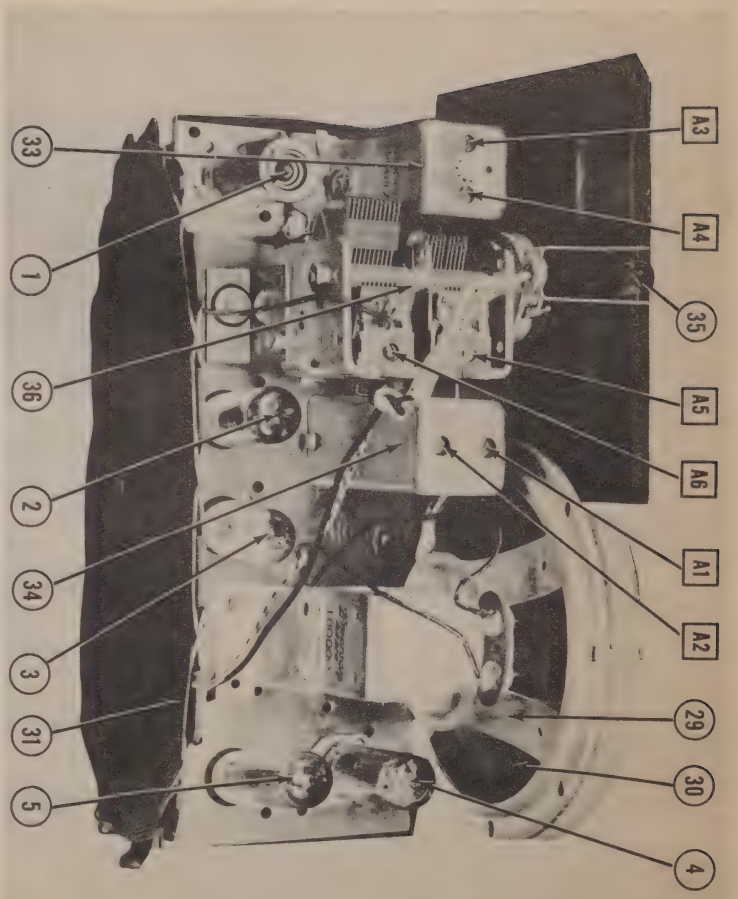
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	IRC PART No.	IDENTIFICATION CODES
16	22KΩ	¼	310810	BTS-22K	Red-Red-Or. Oscillator Grid
17	220KΩ	¼	321050	BTS-220K	Red-Red-Yl. Line Isolation
18	15 Meg.	½	397000	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
19	2.2 Meg.	¼	321290	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
20	180Ω	½	340310	BW-½-180	Br.-Gray-Br. IF Cathode
21	15 Meg.	½	397000	BTS-15 Meg.	Br.-Grn.-Blue AF Grid
22	470KΩ	¼	321130	BTS-470K	Yl.-Vi.-Yl. AF Plate Load
23	470KΩ	¼	321130	BTS-470K	Yl.-Vi.-Yl. Output Grid
24	150Ω	½	340290	BW-½-150	Br.-Grn.-Br. Output Cathode
25	1000Ω	1	370490	BTA-1000	Br.-Blk.-Red Filter
26	15Ω	½	340050	BW-½-15	Br.-Grn.-Blk. Rectifier Ballast
27	10Ω	½	340010	BW-½-10	Br.-Blk.-Blk. Series Pilot Light-See Note

Note-Not used in all models.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: EMERSON PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
28	2010Ω	3.2Ω	224Ω tapped @ 9Ω	.85Ω	734000	A-3876*			*Add extra filter to reduce hum level.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: JENSEN PART No.	REPLACEMENT DATA:	INSTALLATION NOTES
	FIELD	VC IMP.		ST-1077		†Fabricate new mounting bracket.
29	PM	3.2Ω	180000	Mod. P5-V		
	CONE DIA.	VC DIA.				
30	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

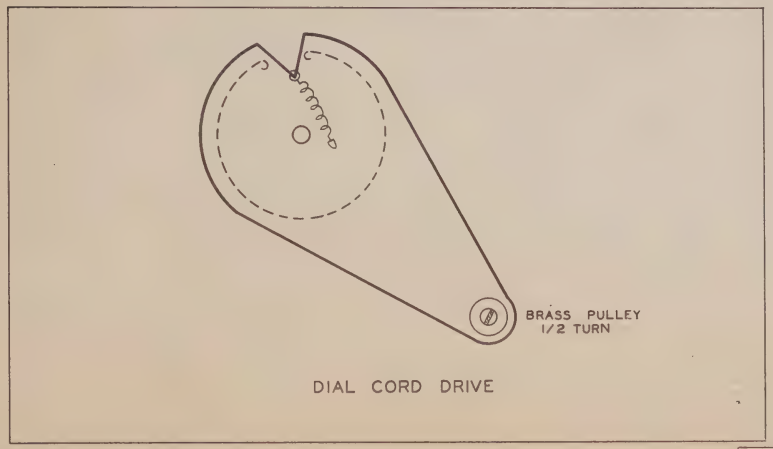
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: MEISSNER PART No.	
31	Loop Ant.	.1Ω	2.8Ω	700000		
32	Osc. Coil	.5Ω	5.5Ω	716010	14-1040	Add 50MMFD from grid to high side tuning cap.
33	Input IF	28Ω	18Ω	720000	16-6666	
34	Output IF	23Ω	22Ω	720100	16-6667	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA:	INSTALLATION NOTES
35	Bayonet	6-8	0.15	Brown	807000		Type 47

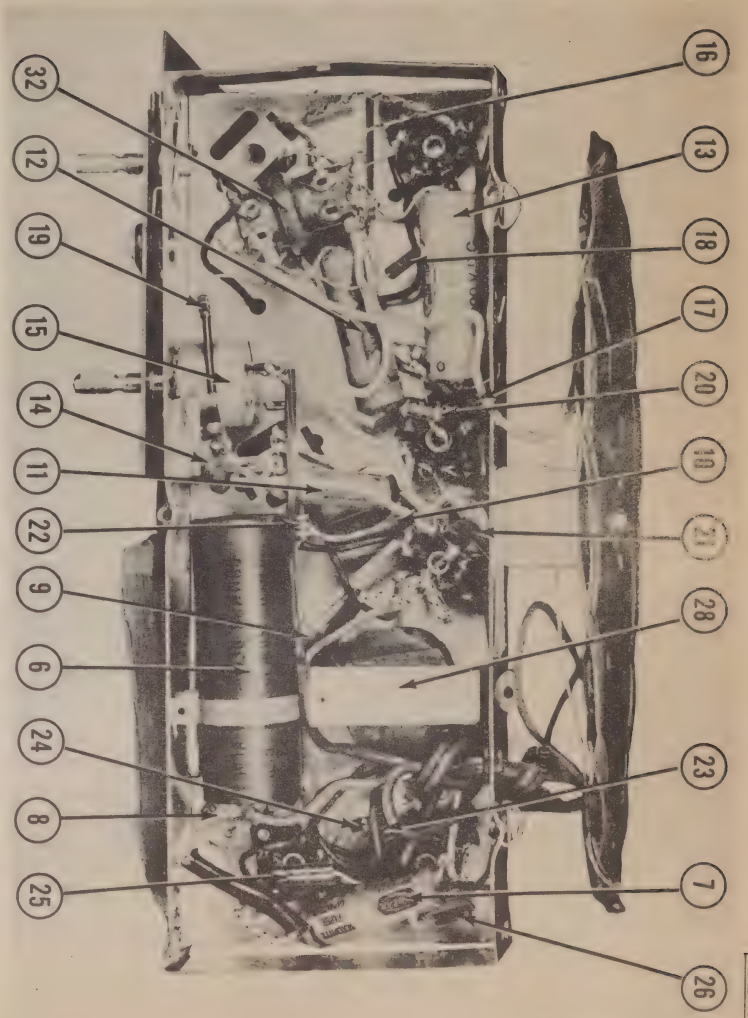
MISCELLANEOUS

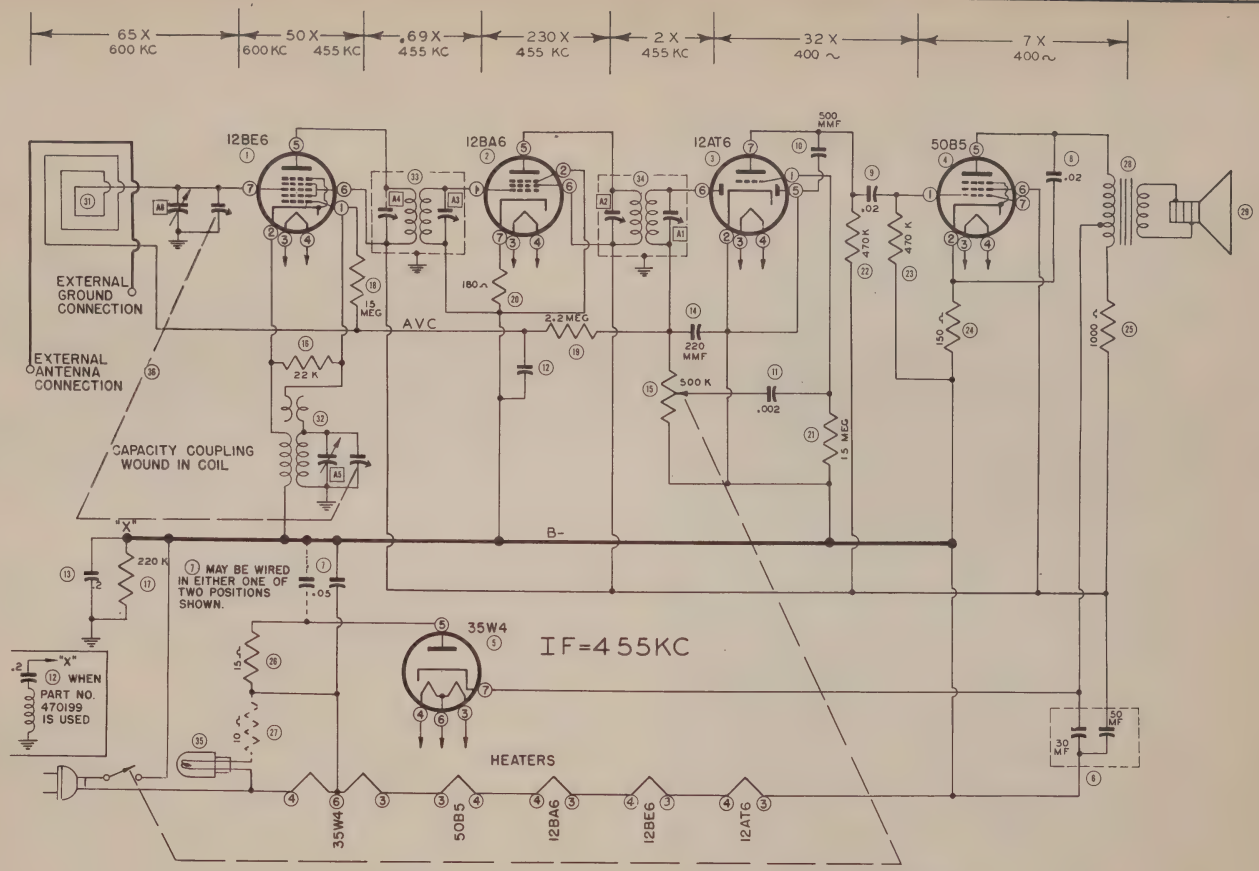
ITEM No.	PART NAME	EMERSON PART No.	NOTES
36	Tuning Capacitor	900160	25-382 MMF, 32-197 MMF



DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	~4.5V,DC	0V.	124V.AC	234V.AC	93V.DC	93V.DC	~1V.DC
2	12BA6	0V.	0V.	234V.AC	334V.AC	93V.DC	93V.DC	48V. DC
3	12AT6	~5V.DC	0V.	0V.	124V.AC	0V.	~3V.DC	36V.DC
4	50B5	0V.	5.2V.DC	80V.AC	334V.AC	106V.DC	93V.DC	0V.
5	35W4	112V.DC	0V.	80V.AC	117V.AC	105V.AC	106V.AC	112V.DC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	20 KΩ	.5Ω	12Ω	22Ω	60 KΩ	60 KΩ	2 MEG.
2	12BA6	18Ω	0Ω	22Ω	32Ω	60 KΩ	60 KΩ	170Ω
3	12AT6	15 MEG.	0Ω	0Ω	12Ω	0Ω	410 KΩ	530 KΩ
4	50B5	470 KΩ	125Ω	75Ω	32Ω	60 KΩ	60 KΩ	470 KΩ
5	35W4	80 KΩ	0Ω	75Ω	101Ω	110Ω	98Ω	80 KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-9

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

EMERSON
MODEL 540 A

EMERSON
MODEL 540 A

EMERSON MODEL 540A

TRADE NAME	Emerson, Model 540A (Ch. 120042)
MANUFACTURER	Emerson Radio & Phonograph Corp., 111 Eigth Ave., New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types, 12BE6 Converter, 12BA6 IF Amp., 12AT6 Det.-AVC-AF, 50B5 Power Output, 35W4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1620KC RATING .240 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning slugs completely in and set pointer to top reference dot on right side of dial backplate. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum position output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 7 (grid) of 12BE6. Low side to B-.	455KC	Tuning slugs completely out.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	200MMFD	High side to ext. ant. lead. Low side to chassis.	1600KC	Bottom reference dot at right side of dial backplate.	"	A5,A6	Adjust for maximum output.
3	200MMFD	"	1400KC	Tune for maximum output.	"	Ant.Coil (34)	Loosen screws on bracket of ant. coil (34). Adjust position of coil for maximum output. Tighten screws.

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PARTS LIST AND DESCRIPTIONS

EMERSON MODEL 540A

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12BE6	12BE6	7CH	
2	IF Amp.	12BA6	12BA6	7BK	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4	Power Output	50B5	50B5	7BZ	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	30	150	925008		BRD3515	2N520	M-5030-150	TA-530	Filter - Red
B	50	150							" - Green
7	.05	400	920030	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
8	.02	400	920020	484-02	DT4S2	TP423	S-4-02	TC-12	Output Plate Bypass
9	.005	400	920180	484-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
10	.0005	600	920240	1684-0005	DT6T5	TP403	S-6-0005	TC-35	Audio Plate Bypass
11	.002	600	920010	684-002	DT6D2	TP405	S-6-002	TC-22	Audio Coupling
12	.1	200	920040	484-.1	DT4P1	TP428	S-4-1	TC-1	AVC Filter
13	220	500	910000	1468-0002	5W5T2	MC237	MO.5-322	1FM-32	Diode Filter
14	110	500	910010	1468-0001	5W5T1	MC235	MO.5-311	1FM-31	Osc. Grid Capacitor
15	300	500	910007	1468-0003	5W5T3	MC241	MO.5-33	1FM-33	Fixed Trimmer
16	1000	300	910180	1468-001	1W5D1	MC455	MW.5-21	1FM-21	Osc. Feedback
17	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Fixed Trimmer

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18	500KΩ	1	390381				Volume Control & Switch

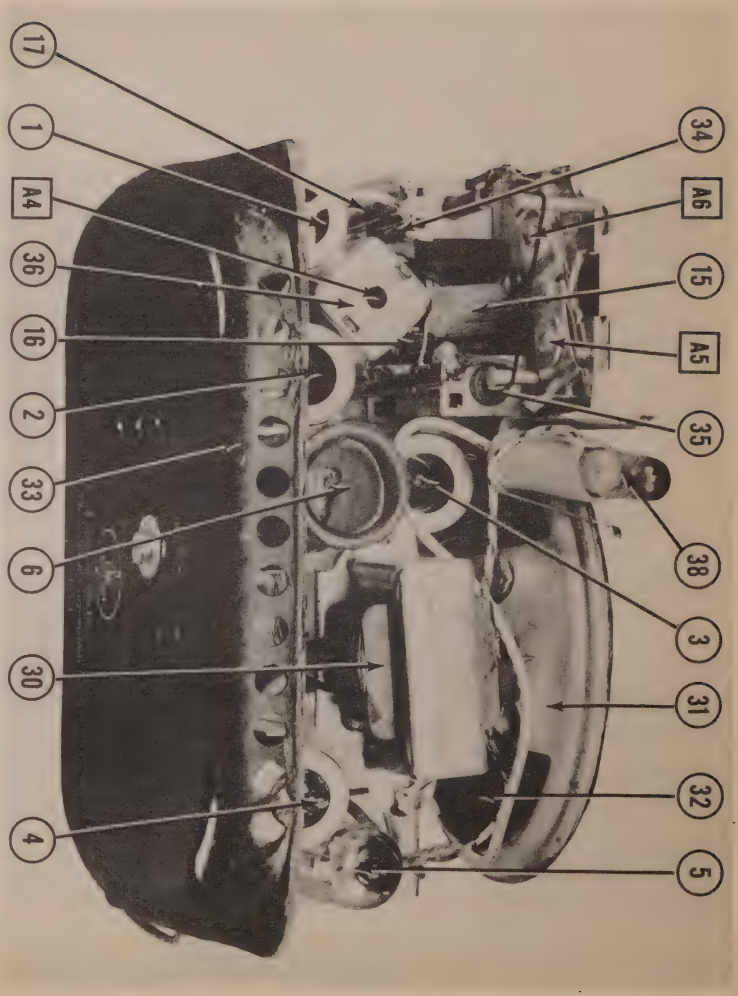
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	IRC PART No.	IDENTIFICATION CODES
19	22KΩ	½	340810	BTS-22K	Red-Red-Or. Oscillator Grid
20	4700Ω	½	340650	BTS-4700	Y1.-V1.-Red Converter Screen Dropping
21	3.3 Meg.	½	351330	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
22	100Ω	½	340250	BW-½-100	Br.-Blk.-Br. IF Cathode
23	15 Meg.	½	397000	BTS-15 Meg.	Br.-Grn.-Blue AF Grid
24	470KΩ	½	351130	BTS-470K	Y1.-V1.-Y1. AF Plate Load
25	470KΩ	½	351130	BTS-470K	Y1.-V1.-Y1. Output Grid
26	150Ω	½	340290	BW-½-150	Br.-Grn.-Br. Output Cathode
27	1000Ω	1	370490	BTA-1000	Br.-Blk.-Red Filter
28	15Ω	½	340050	BW-½-15	Br.-Grn.-Blk. Rectifier Ballast
29	10Ω	½	340010	BW-½-10	Br.-Blk.-Blk. Series Pilot Light

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: EMERSON PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
30	2500Ω	4.0Ω	170Ω tapped @ 7Ω	.6Ω	734006	A-3676*			*Add extra filter to reduce hum level.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: EMERSON PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.				
31	PM	4.0Ω	180018			
	CONE DIA.	VC DIA.				
32	4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE UNIT			

R F COILS

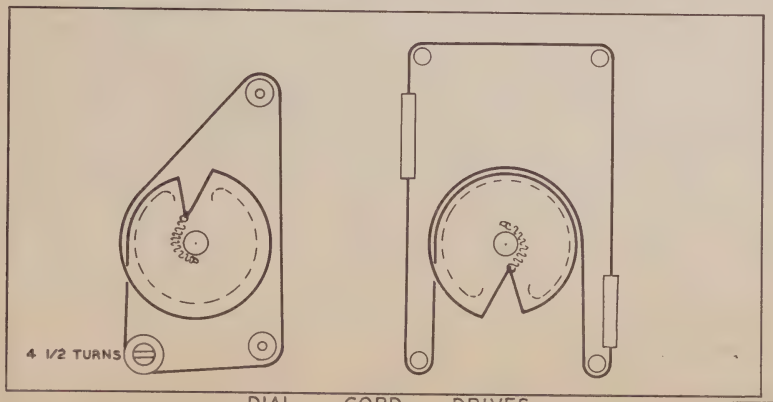
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: EMERSON PART No.	MEISSNER PART No.	
33	Loop Ant.		2.5Ω	700235		
34	Ant. Coil		9.5Ω			Items 34 & 35 ganged together. (Tuner Assembly Part #470141)
35	Osc. Coil		4Ω			
36	Input IF	18Ω	18Ω	720527		
37	Output IF	18Ω	18Ω	720527		

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: EMERSON PART No.		INSTALLATION NOTES
38	Bayonet	6-8	0.15	Brown	807000		Type 47

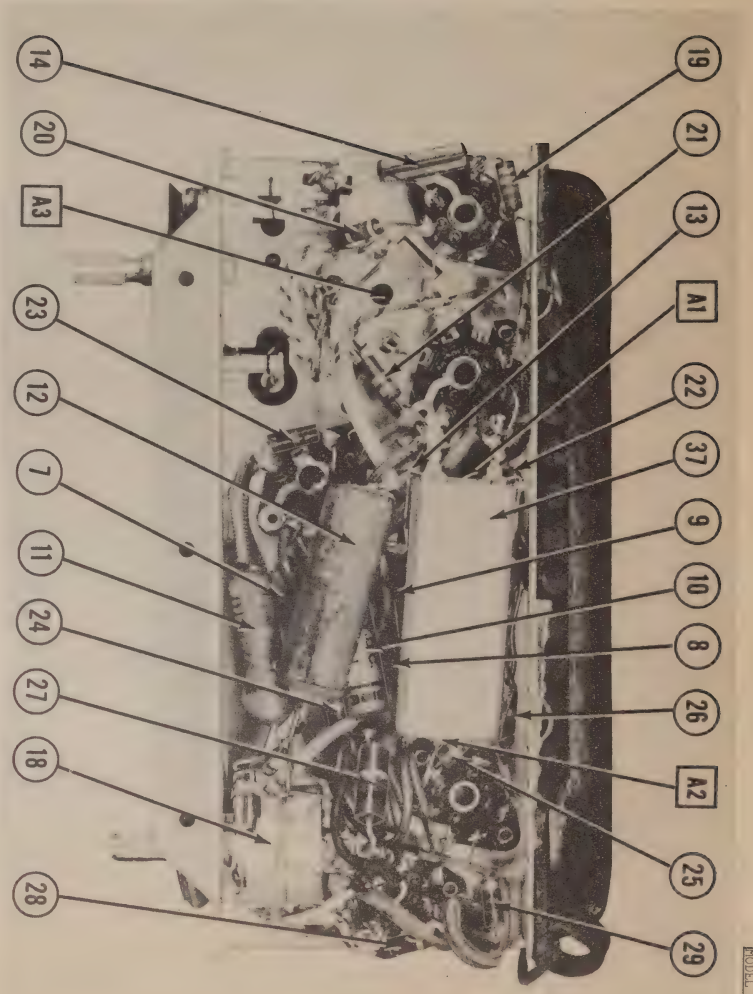
MISCELLANEOUS

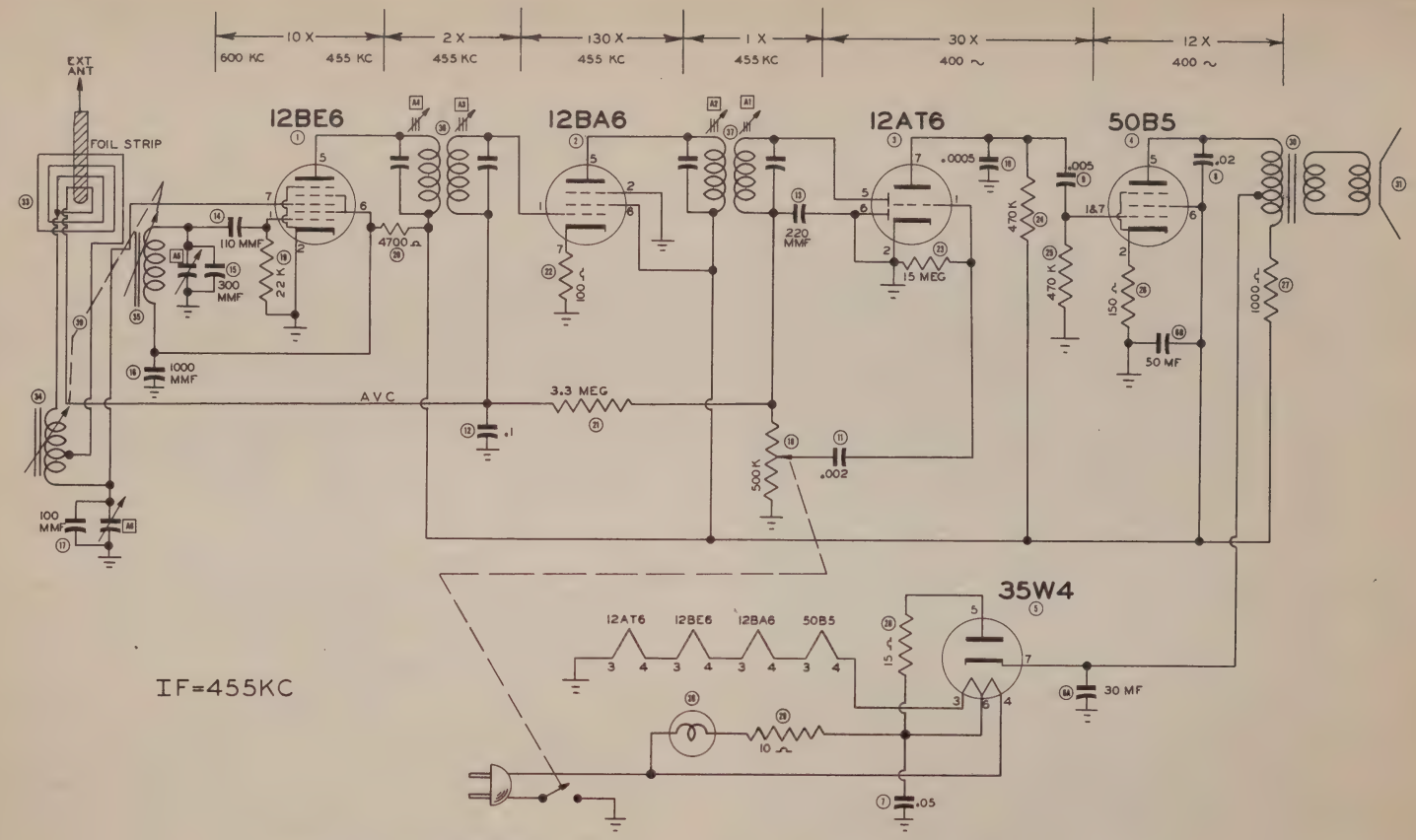
ITEM No.	PART NAME	EMERSON PART No.	NOTES
39	Tuner Assembly	470141	
	Cabinet	140078	Walnut
	"	140075	Ivory
	"	140077	Green
	"	140076	Red
	Dial Crystal	520004	
	Dial Pointer	525207	
	Dial Backplate	520511	
	Knob	460001	Black
	Line Cord	583090	
	Drive Shaft	280509	
	Line Cord	583090	



DIAL CORD DRIVES

CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	-4.3 V DC	0 V	12 V AC	24 V AC	100 V DC	77 V DC	-1 V DC
2	12BA6	+1 V DC	0 V	24 V AC	35 V AC	100 V DC	100 V DC	1.3 V DC
3	12AT6	57 V DC	0 V	0 V	12 V AC	-2 V DC	0 V	57 V DC
4	50B5	0 V	6.2 V DC	35 V AC	65 V AC	115 V DC	100 V DC	0 V
5	35W4	122 V DC	115 V AC	65 V AC	117 V AC	110 V AC	110 V AC	122 V DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	20 KΩ	0 Ω	11 Ω	22 Ω	40 KΩ	45 KΩ	3.5 MEG
2	12BA6	3.3 MEG	0 Ω	22 Ω	32 Ω	40 KΩ	40 KΩ	100 Ω
3	12AT6	15 MEG	0 Ω	0 Ω	11 Ω	500 KΩ	0 Ω	500 KΩ
4	50B5	450 KΩ	125 Ω	32	75 Ω	40 KΩ	40 KΩ	450 KΩ
5	35W4	40 KΩ	100 Ω	75 Ω	102 Ω	110 Ω	97 Ω	40 KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE .

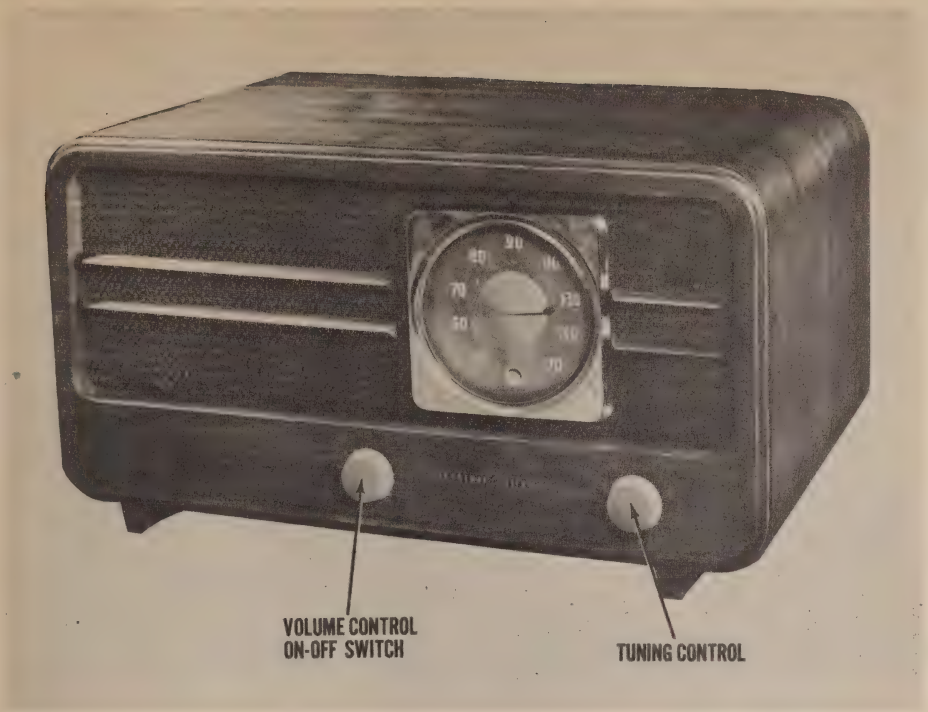
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4 710-10

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

GENERAL ELECTRIC
MODEL 180 (BATTERY OPERATED)



GENERAL ELECTRIC
MODEL 180 (BATTERY OPERATED)

GENERAL ELECTRIC MODEL 180

TRADE NAME	General Electric, Model 180
MANUFACTURER	General Electric Co., Appl. & Merch. Dept., Bridgeport, Conn.
TYPE SET	Battery Operated Superheterodyne Receiver
TUBES (FOUR)	Types, 1A7GT Converter, 1N5GT IF Amp., 1H5GT Det.-AVC-AF, 3Q5GT Power Output
POWER SUPPLY RATING	1½ Volt "A" Battery & 90 Volt "B" Battery in Pack Form .260 Amp. @ 1.6 Volts DC & 15 MA @ 90 Volts DC
TUNING RANGE—BROADCAST	540-1710KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.05 MFD	High side to grid cap. of 1N5GT (IF Tube). Low side to chassis.	455KC	550KC	Across voice coil	A1,A2.	Adjust for maximum output.
2	.05 MFD	High side to grid cap. of 1A7GT. Low side to chassis.	"	"	"	A3,A4.	" " " "
3	200MMFD	High side to ant. terminal. Low side to chassis.	1500KC	1500KC	"	A5,A6	" " " "

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PARTS LIST AND DESCRIPTIONS

GENERAL ELECTRIC
MODEL 130

TUBES

ITEM No.	USE	REPLACEMENT DATA: GENERAL ELECTRIC PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	1A7GT	1A7GT	7Z	
2	IF Amp.	1N5GT	1N5GT	5Y	
3	Det.-AVC-AF	1H5GT	1H5GT	5Z	
4	Power Output	3Q5GT	3Q5GT	7AP	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: GENERAL ELECTRIC PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
5	8	150	RCE-5001	PRS150-8	BR81S	TC42	M-8-150	UT-81	Pwr. Supp. Bypass
6	.05	400	UCC-028	484-05	DT4S5	TP426	S-4-05	TC-15	" " "
7	.003	600	UCC-037	684-003	DT6D3	TP406	S-6-003	TC-23	Output Plate Bypass
8	.005	600	UCC-039	684-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
9	.005	600	UCC-039	684-005	DT6D5	TP408	S-6-005	TC-25	" "
10	.01	600	UCC-040	684-01	DT6S1	TP410	S-6-01	TC-11	" "
11	.05	200	UCC-011	484-05	DT4S5	TP426	S-4-05	TC-15	IF Grid Filter
12	.05	200	UCC-011	484-05	DT4S5	TP426	S-4-05	TC-15	Conv. Screen Bypass
13	.05	200	UCC-011	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
14	100	500	UCU-1028	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Audio Plate Bypass
15	100	500	UCU-1028	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Osc. Grid Capacitor
16	4.7		RCU-5002						RF Coupling

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GENERAL ELECTRIC PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17A	2 Meg.	1	RRC-5001	MK403	D13-139	AM-66-Z	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 17A per instructions
C	Switch		" "	M27	42	SW-A2	" " " " "

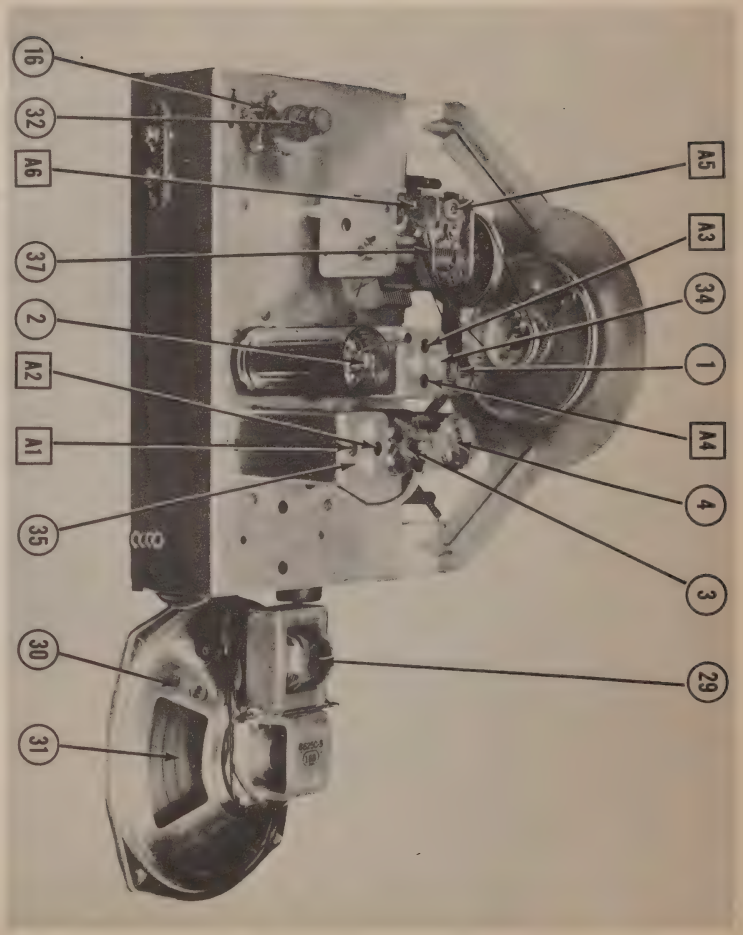
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GENERAL ELECTRIC PART No.	IRC PART No.	IDENTIFICATION CODES
18	10KΩ	½	URD-073	BTS-10K	Br.-Blk.-Or. Antenna Shunt
19	3.3 Meg.	½	URD-133	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
20	220KΩ	½	URD-105	BTS-220K	Red-Red-Yl. Oscillator Grid
21	4700Ω	½	URD-065	BTS-4700	Yl.-Vi.-Red " "
22	47KΩ	½	URD-089	BTS-47K	Yl.-Vi.-Or. Converter Screen Dropping
23	4.7 Meg.	½	URD-137	BTS-4.7 Meg.	Yl.-Vi.-Grn. IF Grid
24	470KΩ	½	URD-113	BTS-470K	Yl.-Vi.-Yl. Diode Load
25	10 Meg.	½	URD-145	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
26	1 Meg.	½	URD-121	BTS-1 Meg.	Br.-Blk.-Grn. AF Plate Load
27	1 Meg.	½	URD-121	BTS-1 Meg.	Br.-Blk.-Grn. Output Grid
28	330Ω	½	URD-037	BW-½-330	Or.-Or.-Br. Bias

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: GENERAL ELECTRIC PART No.	STANCOR PART No.	THORDAR'N PART No.	INSTALLATION NOTES
29	7000Ω	3.7Ω	880Ω	.55Ω	RTO-5001	A-3878	T22847	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: GENERAL ELECTRIC PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-108		
30	PM	3.7Ω	U0P-629	Mod. P6-X		
	CONE DIA.	VC DIA.				
31	6"	1/2"	U0X-001			

R F COILS

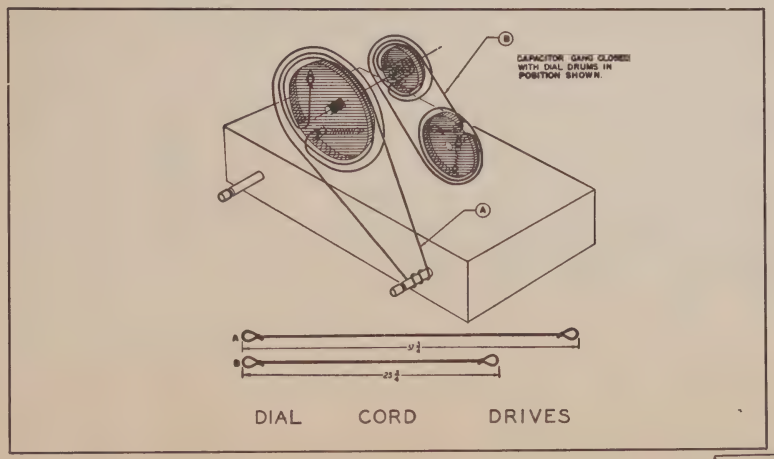
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: GEN. ELECT. PART No.	MEISSNER PART No.
32	Ant. Coil	46Ω	3Ω	RLA-5001	14-1026
33	Osc. Coil	2.3Ω	5.5Ω	RLC-5001	14-1040
34	Input IF	13.5Ω	14Ω	RTL-5002	16-6658
35	Output IF	14Ω		RTL-5001	16-6670

BATTERIES

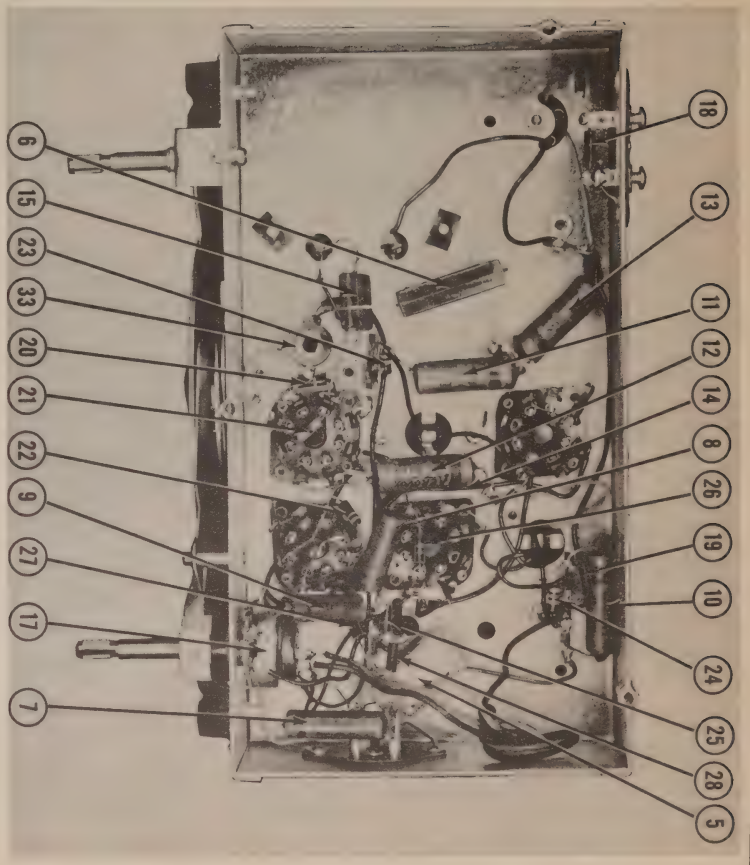
ITEM No.	VOLTAGE	GEN. ELECT. PART No.	EVEREADY "A"	EVEREADY "B"	EVEREADY "A-B"	INSTALLATION NOTES
36	1½ V "A" 90 V "B"				758	

MISCELLANEOUS

ITEM No.	PART NAME	GEN. ELECT. PART No.	NOTES
37	2 Gang Var. Cap	RCT-5001	28-462 MMF, 30-195 MMF

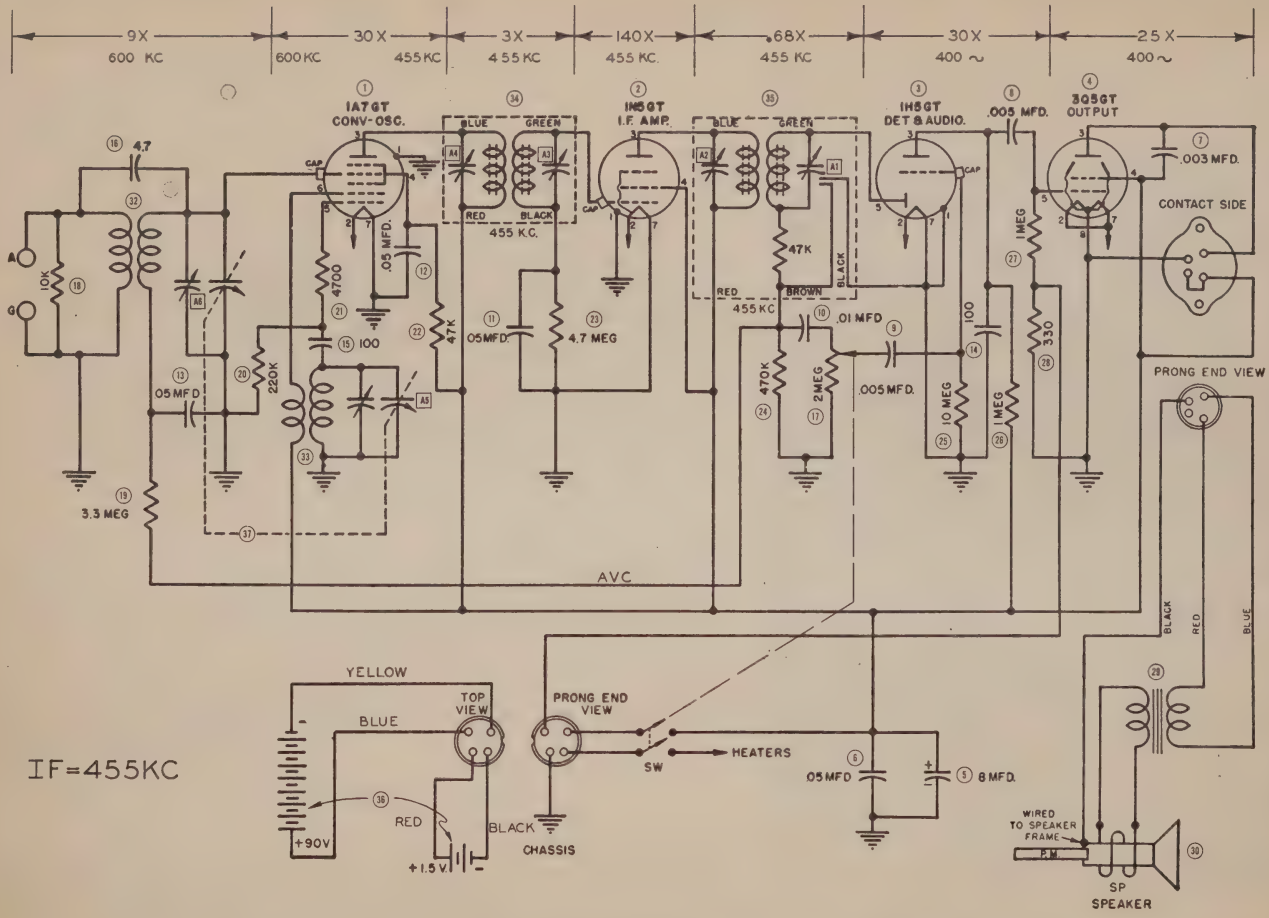


CHASSIS—BOTTOM VIEW



GENERAL ELECTRIC MODEL 180

GENERAL ELECTRIC MODEL 180



*DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE.

Pin No.	1A7GT Volt.	1A7GT Res.	1N5GT Volt	1N5GT Res.
1	0V.	0 Ω	0V.	0 Ω
2	1.8V.DC	*	1.8V.DC	*
3	87V.DC	190 KΩ	87V.DC	140 KΩ
4	50V.DC	190 KΩ	87V.DC	140 KΩ
5	0V.	230 KΩ	0V.	INF.
6	87V.DC	140 KΩ	0V.	INF.
7	0V.	0 Ω	0V.	0 Ω
8	-1V.DC	220 KΩ	0V.	INF.
Cap	0V.	3.5MEG	0V.	5 MEG.

Pin No	1N5GT Volt	1N5GT Res	3Q5GT Volt	3Q5GT Res
1	0V.	INF.	0V.	0 Ω
2	1.6V.DC	*	1.6V.DC	*
3	58V.DC	1.1 MEG.	80V.DC	140 KΩ
4	0V.	INF.	87V.DC	140 KΩ
5	0V.	560 KΩ	-1V.DC	1 MEG.
6	0V.	INF.	80V.DC	140 KΩ
7	0V.	0 Ω	1.8V.DC	*
8	87V.DC	140 KΩ	0V.	0 Ω
Cap	0V.	10 MEG.		

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

4710-11

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is shorted to chassis during stage gain measurements.

1 - DC Voltage measurements are at 20,000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
5 - Volume control at maximum, no signal applied for voltage measurements.

GLOBE MODEL 6P1

TRADE NAME	Globe, Models 6P1 (Manual Record Player), 6AP1 (Automatic Record Player)
MANUFACTURER	Globe Electronics Corp., 225 W. 17th St., New York, N.Y.
TYPE SET	AC Operated Radio-Phono Combination Superheterodyne with Loop Antenna
TUBES (SIX)	Types, 14A7/12B7 RF Amp., 14Q7 Converter, 14A7/12B7 IF Amp., 14B6 Det.-AVC-AF, 35A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	110-120 Volts AC
TUNING RANGE—BROADCAST	540-1700KC RATING .250 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to front stator of tuning cap. Low side to chassis.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. .001 MFD to reduce hum modulation.
2	200MMFD	High side to ext. ant. lead. Low side to chassis.	1700KC	"	"	A5	Adjust for maximum output.
3	200MMFD	"	1400KC	Tune for maximum output.	"	A6	" " " "

DISASSEMBLY INSTRUCTIONS

1. Loosen set screws and remove three control knobs.
2. Remove three wood screws holding phono mounting board in cabinet.
3. Remove one wood screw holding rear chassis cover board.
4. Remove three hex head nuts holding chassis in cabinet. Lift out phono mounting board and chassis.
5. Remove phono pick-up leads.
6. Remove phono-motor leads.

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PARTS LIST AND DESCRIPTIONS

GLOBE MODELS 6P1, 6AP1

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: GLOBE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	14A7/12B7	14A7/12B7	8V	
2	Converter	14Q7	14Q7	8AL	
3	IF Amp.	14A7/12B7	14A7/12B7	8V	
4	Det.-AVC-AF	14B6	14B6	6W	
5	Power Output	35A5	35A5	6AA	
6	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: GLOBE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	150		AF84D4A†	UP4215	FP306†	DY-4020-150	EL-24	■ Filter
B	20	150							▲ "
8	.05	400		484-05	DT4S5	TP426	S-4-05	TC-15	Line Bypass
9	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
10	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
11	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	" "
12	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
13	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	RF Bypass Pwr. Supp.
14	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	Ext. Ant. Isolation
15	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	Tone Compensation
16	200	500		1468-0002	5W5T2	MC237	M0.5-32	1FM-32	Audio Plate Bypass
17	200	500		1468-0002	5W5T2	MC237	M0.5-32	1FM-32	Diode Filter
18	50	500		1468-00005	5W5Q5	MC225	M0.5-45	1FM-45	Osc. Grid Capacitor
19	200	500		1468-0002	5W5T2	MC237	M0.5-32	1FM-32	RF Coupling

†Do not use bypass section.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GLOBE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
20A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 20A per instructions
C	Switch			M26	41	SW-A	" " " " "

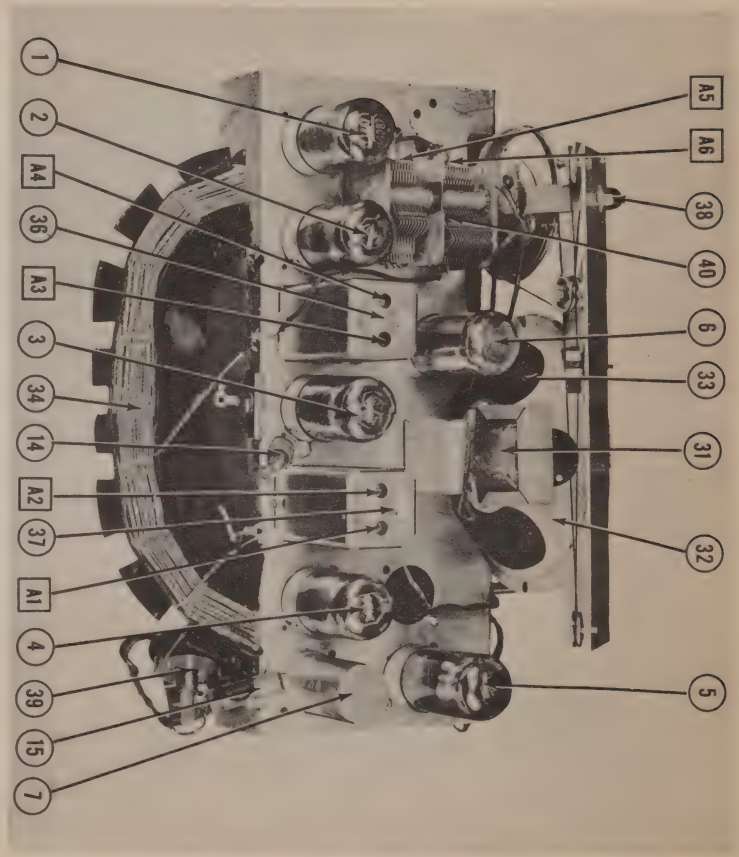
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GLOBE PART No.	IRC PART No.	IDENTIFICATION CODES
21	1200Ω	1		BTA-1200	Br.-Red-Red RF Cathode
22	18KΩ	½		BTS-18K	Br.-Gray-Or. RF Plate Load
23	47KΩ	½		BTS-47K	Yl.-Vl.-Or. Converter Grid
24	18KΩ	½		BTS-18K	Br.-Gray-Or. Oscillator Grid
25	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
26	4.7 Meg.	½		BTS-4.7 Meg.	Yl.-Vl.-Grn. AF Grid
27	330KΩ	½		BTS-330K	Or.-Or.-Yl. AF Plate Load
28	470KΩ	½		BTS-470K	Yl.-Vl.-Yl. Output Grid
29	120Ω	½		BW-½-120	Br.-Red-Br. Output Cathode
30	1200Ω	1		BTA-1200	Br.-Red-Red Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: GLOBE PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
31	20002	3.2Ω	170Ω	.5Ω		A-3876*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA GLOBE PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105		
32	PM	3.3Ω		Mod. PS-X		
	CONE DIA.	VC DIA.				
33	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

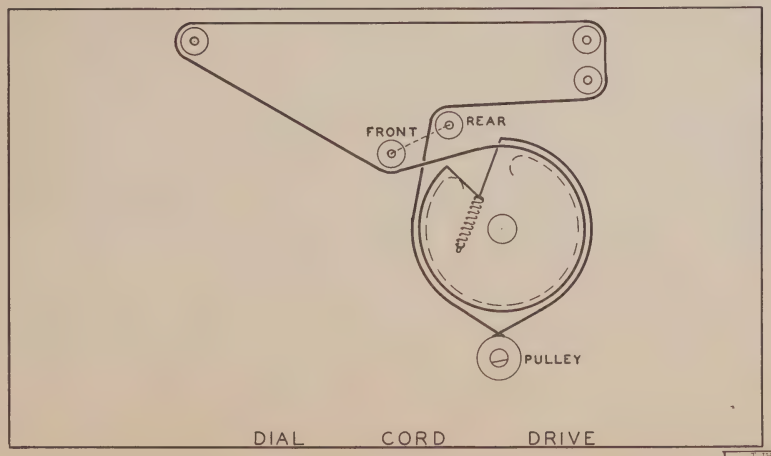
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA GLOBE PART No.	REPLACEMENT DATA MEISSNER PART No.	
34	Loop Ant.	.1Ω	1.2Ω			
35	Osc. Coil		6Ω		14-1040	
36	Input IF	28Ω	27Ω		16-6658	
37	Output IF	28Ω	27Ω	K-102-J941	16-6660	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA GLOBE PART No.		INSTALLATION NOTES
38	Bayonet	6-8	0.15	Brown			Type 47

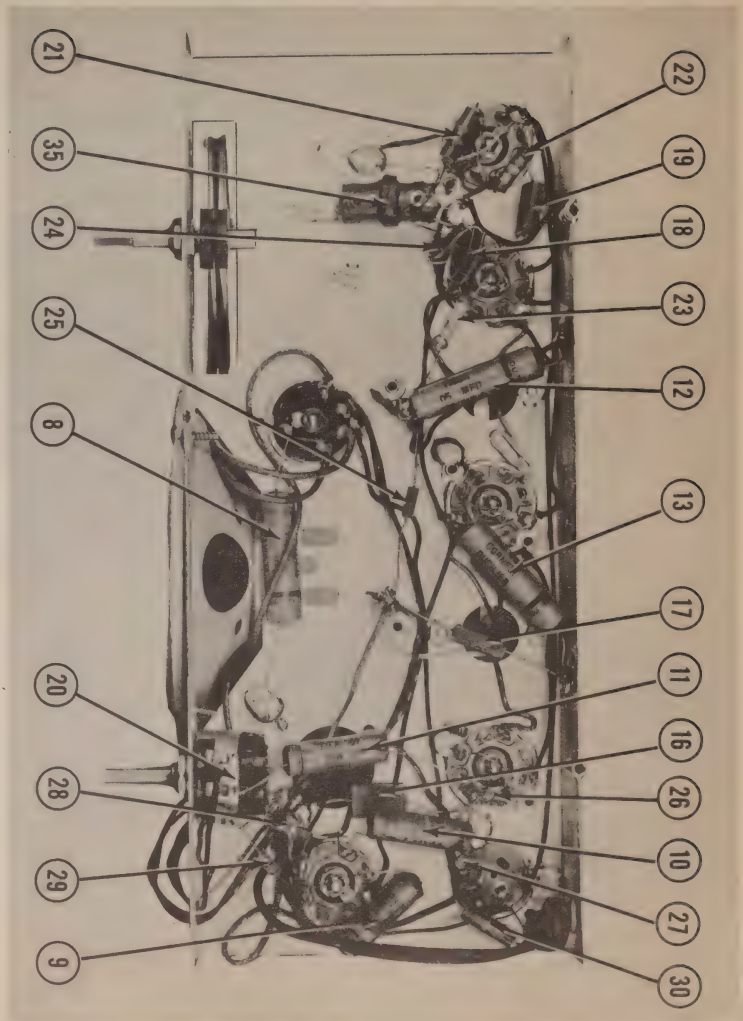
MISCELLANEOUS

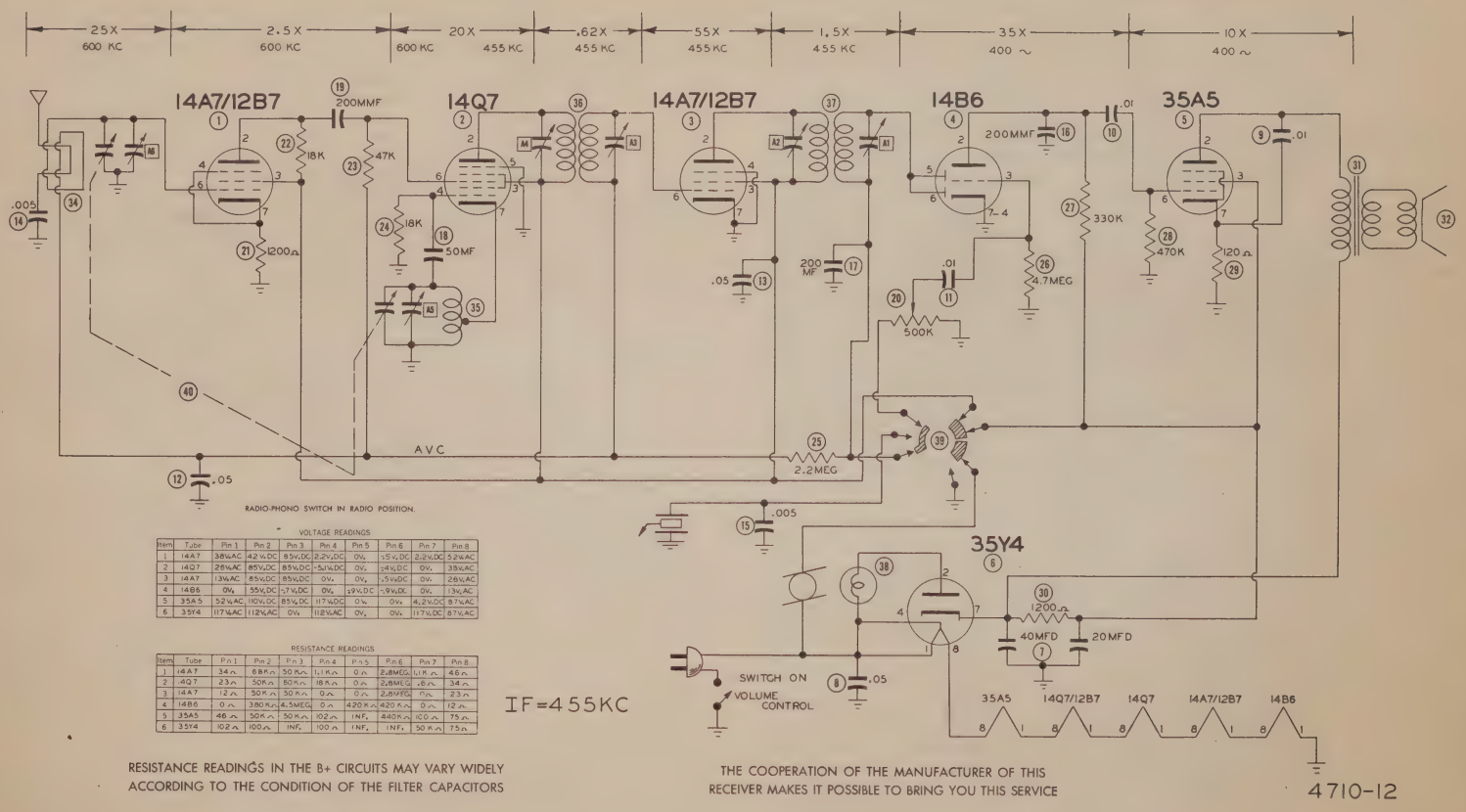
ITEM No.	PART NAME	GLOBE PART No.	NOTES
39	Switch		Radio-Phono
40	2 Gang Var. Cap		39-435 MMF, 34-199 MMF
	Crystal Pickup		Astatic L-26A



DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW





RADIO-PHONO SWITCH IN RADIO POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	38VAC	42 VDC	85VDC	2.2VDC	0V.	-25VDC	2.2VDC	52VAC
2	14Q7	26VAC	85VDC	85VDC	-5VDC	0V.	-4VDC	0V.	33VAC
3	14A7	13VAC	85VDC	85VDC	0V.	0V.	-.5VDC	0V.	26VAC
4	14B6	0V.	55VDC	-7VDC	0V.	-9VDC	-9VDC	0V.	13VAC
5	35A5	52VAC	110VDC	85VDC	117VDC	0V.	0V.	2.2VDC	87VAC
6	35Y4	117VAC	112VAC	0V.	112VAC	0V.	0V.	117VDC	87VAC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	34Ω	68KΩ	50KΩ	1.1KΩ	0Ω	2.8MEG.	1.1KΩ	46Ω
2	14Q7	23Ω	50KΩ	80KΩ	18KΩ	0Ω	2.8MEG.	.6Ω	34Ω
3	14A7	12Ω	50KΩ	50KΩ	0Ω	0Ω	2.8MEG.	0Ω	23Ω
4	14B6	0Ω	380KΩ	4.5MEG.	0Ω	420KΩ	420KΩ	0Ω	12Ω
5	35A5	46Ω	50KΩ	50KΩ	102Ω	INF.	440KΩ	100Ω	75Ω
6	35Y4	102Ω	100Ω	INF.	100Ω	INF.	INF.	50KΩ	75Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

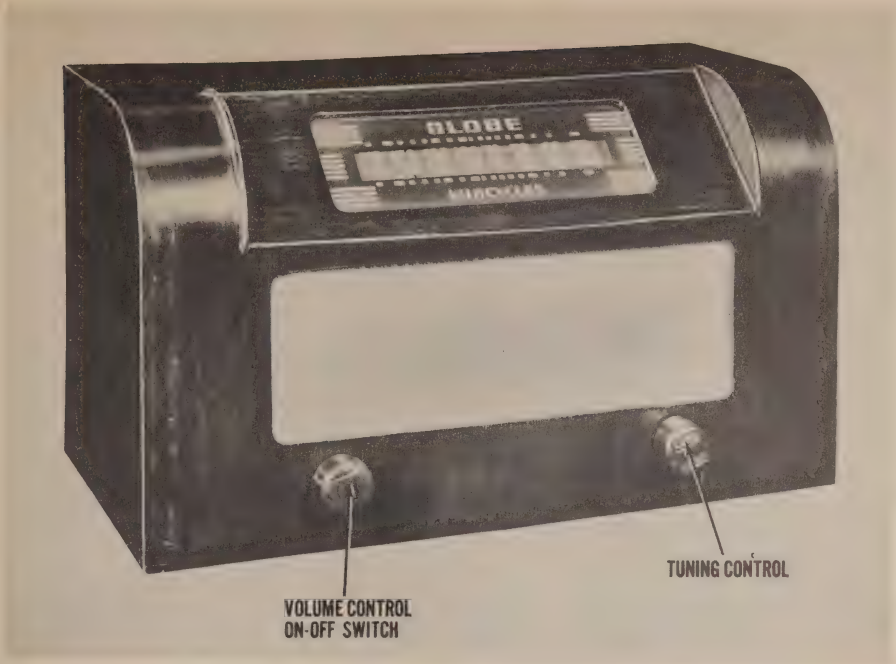
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

4710-12

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. **DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.**
2. **Socket connections are shown as bottom views.**
3. **Measured values are from socket pin to common negative.**
4. **Line voltage maintained at 117 volts for voltage readings.**
5. **Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.**
6. **Volume control at maximum, no signal applied for voltage measurements.**

GLOBE
MODELS 6D1, 6U1



GLOBE
MODELS 6D1, 6U1

GLOBE MODEL 6U1

TRADE NAME	Globe, Models 6D1, 6U1
MANUFACTURER	Globe Electronics, Inc., 225 W. 17th St., New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne with Loop Antenna
TUBES (SIX)	Types, 14A7/12B7 RF Amp., 14Q7 Converter, 14A7/12B7 IF Amp., 14B6 Det.-AVC-AF, 35A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1725KC RATING .260 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to chassis.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	200MMFD.	High side to ext. ant. lead. Low side to chassis.	1725KC	"	"	A5	Adjust for maximum output.
3	200MMFD.	"	1400KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

GLOBE MODELS 6D1, 6U1

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: GLOBE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	14A7/12B7	14A7/12B7	8V	
2	Converter	14Q7	14Q7	8AL	
3	IF Amp.	14A7/12B7	14A7/12B7	8V	
4	Det.-AVC-AF	14B6	14B6	8W	
5	Power Output	35A5	35A5	6AA	
6	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: GLOBE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	30	150		PRSA150-30-30	BRD3315	2N513	M-2x30-150	TA-230	Filter - Red
B	20	150							" - Blue
8	.05	400		484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
9	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
10	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
11	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	" "
12	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
13	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	RF Bypass Pwr. Supp.
14	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Ext. Ant. Isolation
15	200	500		1468-0002	5W5T2	MC237	M0.5-32	1FM-32	Audio Plate Bypass
16	50	500		1468-00005	5W5Q5	MC225	M0.5-45	1FM-45	Osc. Grid Capacitor
17	200	500		1468-0002	5W5T2	MC237	M0.5-32	1FM-32	RF Coupling
18	200	500		1468-0002	5W5T2	MC237	M0.5-32	1FM-32	IF Bypass Vol. Cont.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GLOBE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 19A per instructions
C	Switch			M26	41	SW-A	" " " " "

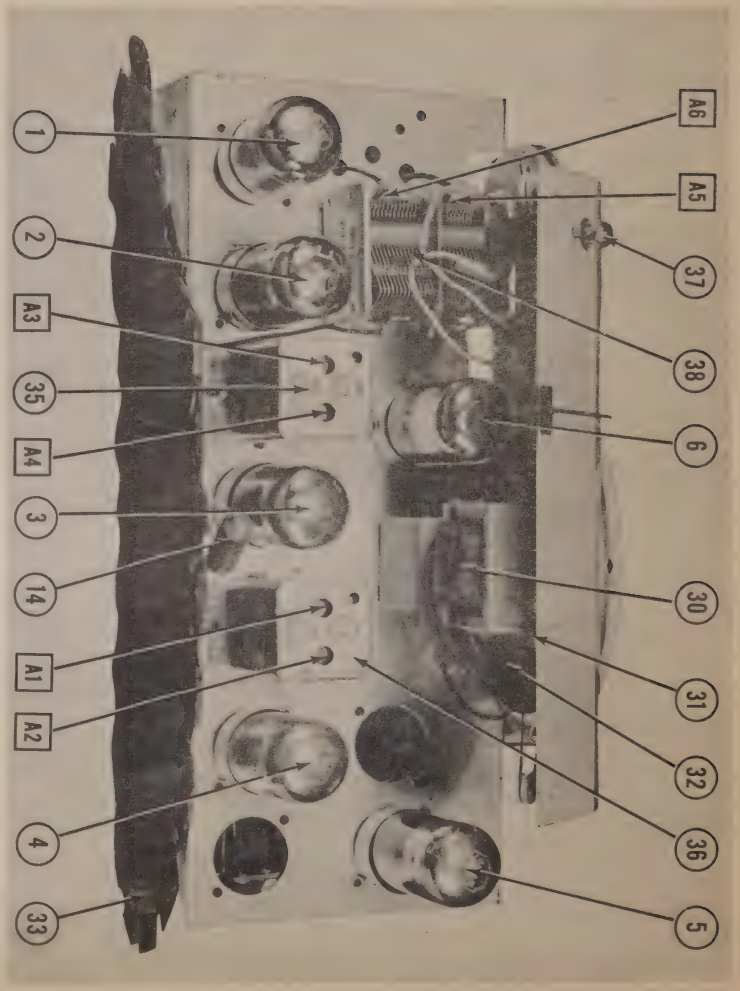
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GLOBE PART No.	IRC PART No.	IDENTIFICATION CODES
20	1200Ω	½		BTS-1200	Br.-Red-Red RF Cathode
21	18KΩ	½		BTS-18K	Br.-Gray-Or. RF Plate Load
22	47KΩ	½		BTS-47K	Yl.-Vl.-Or. Converter Grid
23	18KΩ	½		BTS-18K	Br.-Gray-Or. Oscillator Grid
24	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
25	4.7 Meg.	½		BTS-4.7 Meg.	Yl.-Vl.-Grn. AF Grid
26	220KΩ	½		BTS-220K	Red-Red-Yl. AF Plate Load
27	470KΩ	½		BTS-470K	Yl.-Vl.-Yl. Output Grid
28	120Ω	½		BW-½-120	Br.-Red-Br. Output Cathode
29	1200Ω	1		BTA-1200	Br.-Red-Red Rectifier Ballast

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: GLOBE PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
30	2100Ω	3.1Ω	170Ω	.5Ω		A-3876*	T22945*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: GLOBE PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105		
31	PM	3.1Ω		Mod. P5-X		
	CONE DIA.	VC DIA.				
32	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

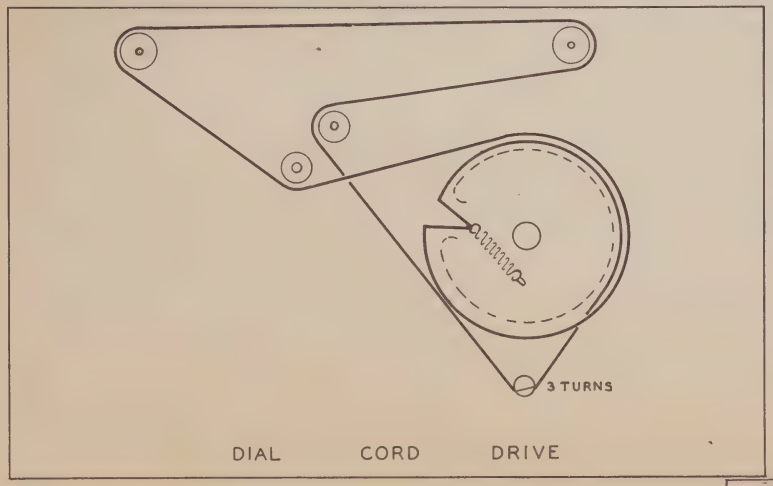
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: GLOBE PART No.	MEISSNER PART No.
33	Loop Ant.	.1Ω	1.3Ω		
34	Osc. Coil		7Ω		14-1040
35	Input IF	17.5Ω	17.5Ω		16-6658
36	Output IF	14Ω	14Ω	S-104	16-6660

DIAL LIGHT

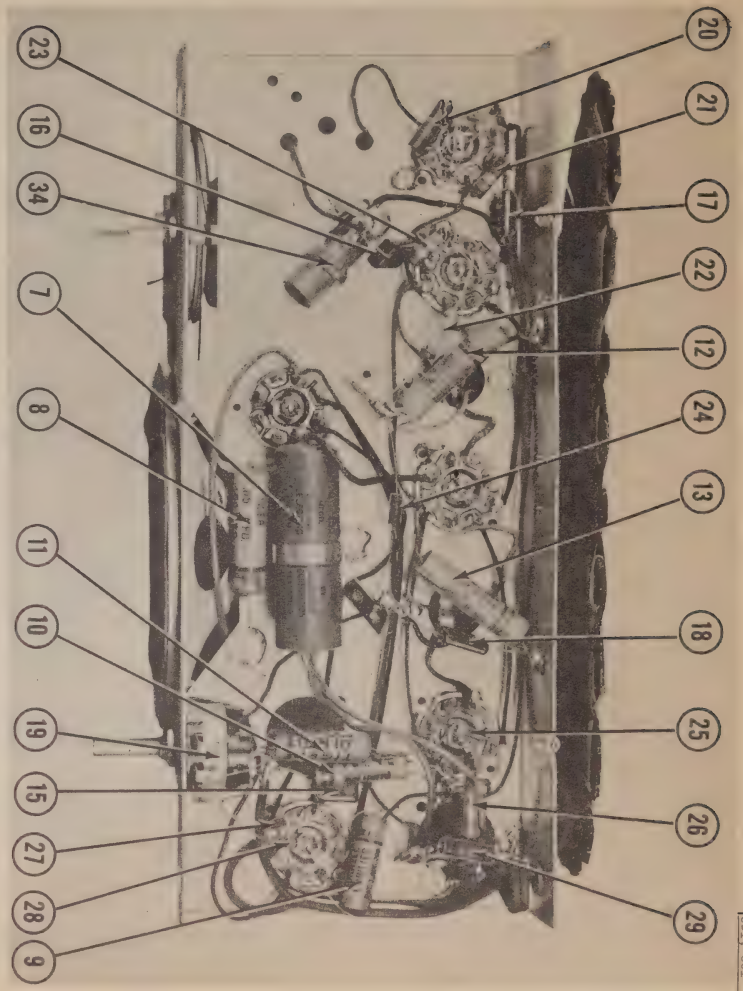
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: GLOBE PART No.		INSTALLATION NOTES
37	Bayonet	6-8	0.15	Brown			Type 47

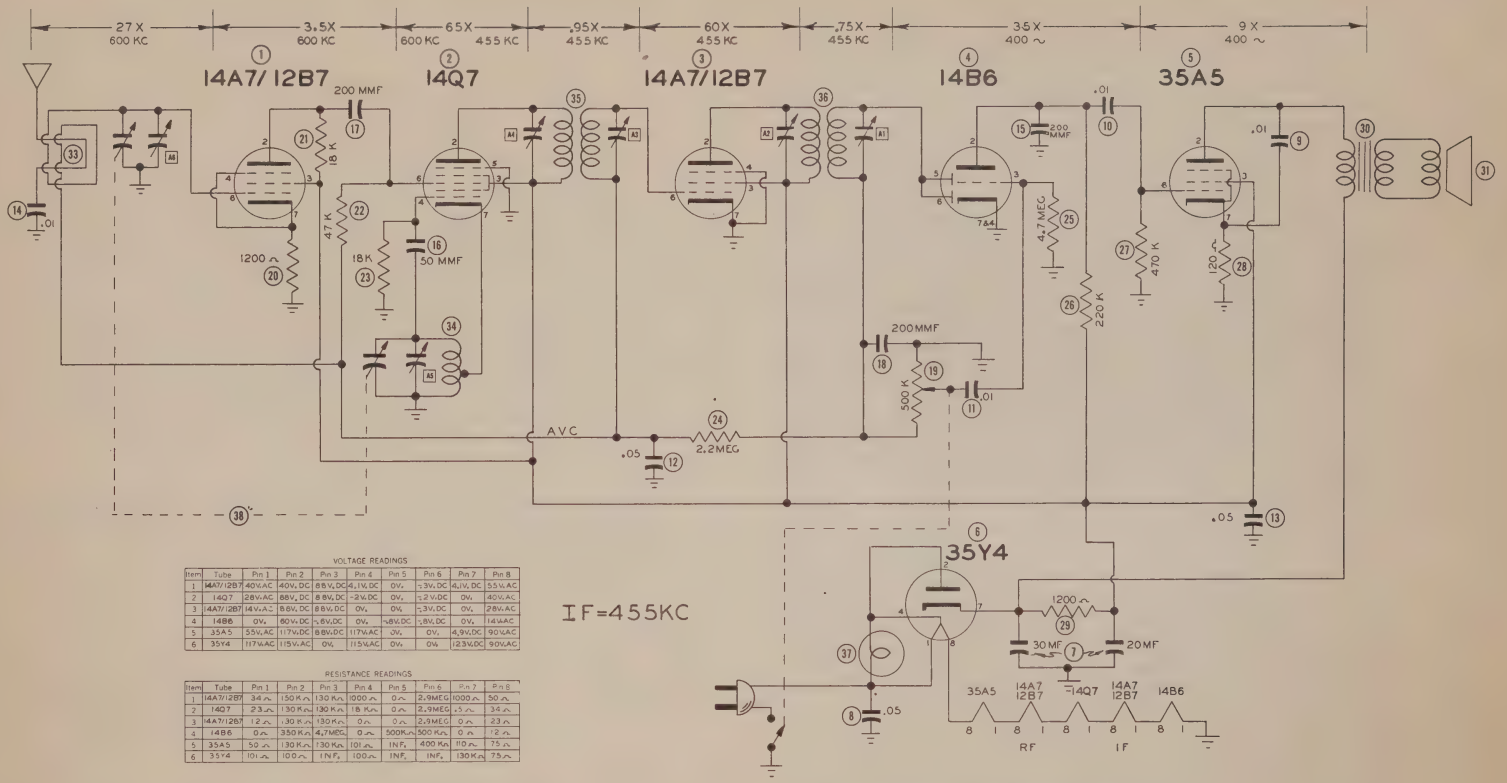
MISCELLANEOUS

ITEM No.	PART NAME	GLOBE PART No.	NOTES
38	2 Gang Var. Cap.	P17J161-1	24-469 MMF, 29-153 MMF



CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7/12B7	40V.AC	40V. DC	88V.DC	4.1V.DC	0V.	-3V.DC	4.1V. DC	55V.AC
2	14Q7	28V.AC	88V. DC	88V.DC	-2V.DC	0V.	-2 V.DC	0V.	40V.AC
3	14A7/12B7	14V.AC	88V. DC	88V.DC	0V.	0V.	-3V.DC	0V.	28V.AC
4	14B6	0V.	80V.DC	-6V.DC	0V.	-8V.DC	-8V.DC	0V.	114VAC
5	35A5	55V.AC	117V.DC	88V.DC	117VAC	0V.	0V.	4.9V.DC	90VAC
6	35Y4	117VAC	115V.AC	0V.	115VAC	0V.	0V.	123V.DC	90VAC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7/12B7	34 Ω	150 KΩ	130 KΩ	1000 Ω	0 Ω	2.9MEG	1000 Ω	50 Ω
2	14Q7	23 Ω	130 KΩ	130 KΩ	18 KΩ	0 Ω	2.9MEG	.5 Ω	34 Ω
3	14A7/12B7	12 Ω	130 KΩ	130 KΩ	0 Ω	0 Ω	2.9MEG	0 Ω	23 Ω
4	14B6	0 Ω	350 KΩ	4.7MEG	0 Ω	500KΩ	500 KΩ	0 Ω	12 Ω
5	35A5	50 Ω	130 KΩ	130 KΩ	101 Ω	INF.	400 KΩ	110 Ω	75 Ω
6	35Y4	101 Ω	100 Ω	INF.	100 Ω	INF.	INF.	130 KΩ	75 Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

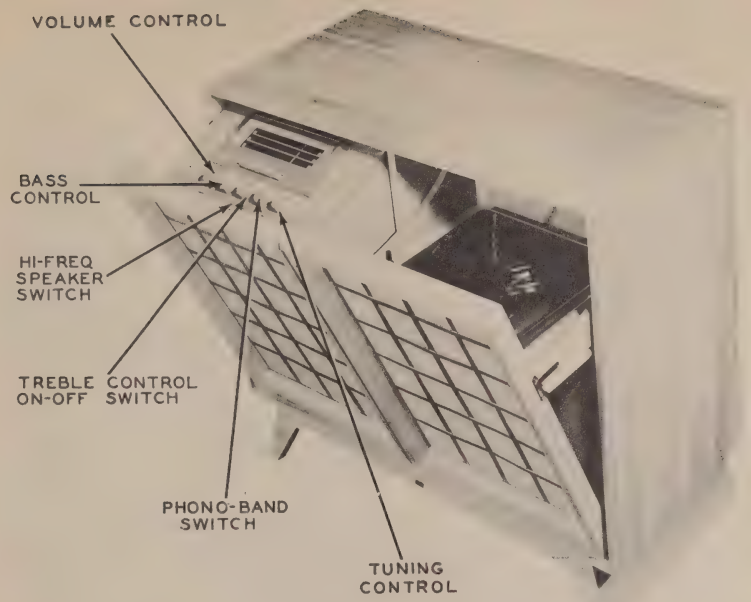
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

4710-13

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. **DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.**
2. **Socket connections are shown as bottom views.**
3. **Measured values are from socket pin to common negative.**
4. **Line voltage maintained at 117 volts for voltage readings.**
5. **Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.**
6. **Volume control at maximum, no signal applied for voltage measurements.**

HOFFMAN
MODEL B1000 (CHASSIS 114)



HOFFMAN MODEL B 1000

TRADE NAME	Hoffman, Model B 1000 (Chassis 114)
MANUFACTURER	Hoffman Radio Corp., 3761 S. Hill St., Los Angeles, Calif.
TYPE SET	AC Operated Phono-Radio Combination Superheterodyne with Loop Antenna
TUBES (TEN)	Types, 6SK7 RF Amp., 6SA7 Converter, 6SK7 IF Amp., 6SQ7 Det.-AVC-AF, 6J5 Tone Amp., 6J5 Amp., 6J5 Phase Inv., (2) 6V6GT Power Output, 5U4G Rectifier.
POWER SUPPLY	110-120 Volts AC
RATING	.860 Amp. @ 117 Volts AC
TUNING RANGE - BROADCAST	550-1650KC SHORT WAVE 5.5-10.4MC 9.5-19.4MC

HOFFMAN
MODEL B1000 (CHASSIS 114)

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 6, Indiana

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed." "Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1947 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. A. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: HOFFMAN PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	6SK7	6SK7	8N	
2	Converter	6SA7	6SA7	8R	
3	IF Amp.	6SK7	6SK7	8N	
4	Det.-AVC-AF	6SQ7	6SQ7	8Q	
5	Tone Control	6J5	6J5	6Q	
6	AF Amp.	6J5	6J5	6Q	
7	Phase Inv.	6J5	6J5	6Q	
8	Power Output	6V6GT	6V6GT	7AC	
9	Power Output	6V6GT	6V6GT	7AC	
10	Rectifier	5U4G	5U4G	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: HOFFMAN PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
11A	20	450	4200	AF44J	UF6BJ38	FP234	DY-2x20-450	EL-220	■ Filter
B	20	450							▲ "
12	10	450	4203	PRS450-10	BR1045	TC72	M-10-450	UT-12	"
13	10	450	4203	PRS450-10	BR1045	TC72	M-10-450	UT-12	"
14	25	25	4205	PR825-25	BR252A	TC26	M-25-25	TA-25	AF Cath. Bypass
15	.01	600	4105	684-01	DT6S1	TP410	TM-6-01	TC-11	Line Bypass
16	.05	200	4100	484-05	DT4S5	TP426	S-4-05	TC-15	Filament Bypass
17	.05	200	4100	484-05	DT4S5	TP426	S-4-05	TC-15	" "
18	.005	600	4102	684-005	DT6D5	TP408	S-6-005	TC-25	Output Plate Bypass
19	.05	400	4101	484-05	DT4S5	TF426	S-4-05	TC-15	Audio Coupling
20	.05	400	4101	484-05	DT4S5	TP426	S-4-05	TC-15	" "
21	.01	400	4112	484-01	DT4S1	TF421	S-4-01	TC-11	" "
22	.02	400	4106	484-02	DT4S2	TF423	S-4-02	TC-12	Tone Compensation
23	.2	200	4108	484-.2	DT4F2	TF429	S-4-2	TC-2	" " "
24	.005	600	4102	684-005	DT6D5	TP408	S-6-005	TC-25	" " "
25	.001	600	4104	684-001	DT6D1	TF404	S-6-001	TC-21	Audio Coupling
26	.01	400	4112	484-01	DT4S1	TF421	S-4-01	TC-11	" "
27	.05	400	4101	484-05	DT4S5	TF426	S-4-05	TC-15	RF Bypass Pwr. Supp.
28	.05	400	4101	484-05	DT4S5	TF426	S-4-05	TC-15	" " " "
29	.05	200	4100	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
30	.05	200	4100	484-05	DT4S5	TF426	S-4-05	TC-15	" "
31	470	500	4003	1468-0005	5W5T5	MC245	MO.5-35	1FM-35	Feedback
32	330	500	4010	1468-0003	5W5T3	MC241	MO.5-333	1FM-33	Scratch Filter
33	330	500	4010	1468-0003	5W5T3	MC241	MO.5-333	1FM-33	" "
34	330	500	4010	1468-0003	5W5T3	MC241	MO.5-333	1FM-33	" "
35	650	500	4011						" "
36	330	500	4010	1468-0003	5W5T3	MC241	MO.5-333	1FM-33	Phono Coupling
37	1500	300	4016	1467-0015	1W5D15	MC256	MW.5-215	1FM-215	Tone Compensation
38	1500	300	4016	1467-0015	1W5D15	MC256	MW.5-215	1FM-215	" "
39	100	500	4000	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Diode Filter
40	100	500	4000	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	" "
41	100	500	4000	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Tone Compensation
42	47	500	4007	1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
43	1050	500	4005						Fixed Padder
44	2300	500	4006						" "
45	500	500	4004	1468-0005	5W5T5	MC245	MO.5-35	1FM-35	" "

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: HOFFMAN PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
46A	500KΩ	1	4804	MR48	D13-133	M-60-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 46A per instructions
47A	50KΩ	1	4806	MR34	D11-123		Bass Control
B	Shaft		Not Req.	Not Req.	A		Attach to 47A per instructions
48A	250KΩ	1	4805	MR44	D13-130	M-64-Z	Treble Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 48A per instructions
C	Switch		" "	M26	41	SW-A	" " " "

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: HOFFMAN PART No.	IRC PART No.	IDENTIFICATION CODES
49	100KΩ	½	4511	BTS-100K	Br.-Blk.-Yl. AVC Network
50	22KΩ	½	4501	BTS-22K	Red-Red-Or. Oscillator Grid
51	2.2 Meg.	½	4502	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
52	10KΩ	2	4503	BT-2-10K	Br.-Blk.-Or. Screen Dropping
53	47KΩ	½	4504	BTS-47K	Yl.-Vi.-Or. Diode RF Filter
54	1 Meg.	½	4513	BTS-1 Meg.	Br.-Blk.-Grn. Tone Compensation
55	220KΩ	½	4500	BTS-220K	Red-Red-Yl. Diode Load
56	2200Ω	½	4512	BTS-2200	Red-Red-Red 1st AF Cathode
57	2.2 Meg.	½	4502	BTS-2.2 Meg.	Red-Red-Grn. Series Phono
58	47KΩ	½	4537	BTS-47K	Yl.-Vi.-Or. Tone Compensation
59	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Phono Shunt-See Note 1
60	47KΩ	½	4504	BTS-47K	Yl.-Vi.-Or. 1st AF Plate Load
61	1 Meg.	½	4513	BTS-1 Meg.	Br.-Blk.-Grn. Tone Amplifier Grid
62	2200Ω	½	4512	BTS-2200	Red-Red-Red Tone Amplifier Cathode
63	22KΩ	½	4501	BTS-22K	Red-Red-Or. Tone Amplifier Cathode
64	10KΩ	½	4515	BTS-10K	Br.-Blk.-Or. Tone Amplifier Plate Load
65	47KΩ	1	4516	BTA-47K	Yl.-Vi.-Or. Voltage Dropping
66	1 Meg.	½	4513	BTS-1 Meg.	Br.-Blk.-Grn. 2nd AF Grid
67	4700Ω	½	4543	BTS-4700	Yl.-Vi.-Red 2nd AF Cathode
68	220KΩ	½	4500	BTS-220K	Red-Red-Yl. 2nd AF Plate Load
69	10KΩ	½	4515	BTS-10K	Br.-Blk.-Or. Feedback
70	4.7 Meg.	½	4544	BTS-4.7 Meg.	Yl.-Vi.-Grn. Series Phase Inverter Grid
71	47KΩ	½	4537	BTS-47K	Yl.-Vi.-Or. Series Phase Inverter Cathode
72	47KΩ	½	4537	BTS-47K	Yl.-Vi.-Or. Phase Inverter Plate Load
73	220KΩ	½	4500	BTS-220K	Red-Red-Yl. Output Grid
74	220KΩ	½	4500	BTS-220K	Red-Red-Yl. Output Grid
75	220Ω	3	4519	ABA-250	Red-Red-Br. Output Cathode-See Note 2

Note 1 - Not used in all models.
Note 2 - On IRC replacement set slider at 220Ω from one end.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: HOFFMAN PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDARSON PART No.	INSTALLATION NOTES
76	117V AC @ .86A	600V CT @ .110A	5.0V AC @ 3.0A	6.2V AC @ 3.4A	5001	P-6313†	T22R32	†Mount vertically with universal mounting brackets.

SCRATCH FILTER CHOKE

ITEM NO.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: D.C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000∿)	REPLACEMENT DATA: HOFFMAN PART NO.	REPLACEMENT DATA: STANCOR PART NO.	REPLACEMENT DATA: THORDARSON PART NO.	INSTALLATION NOTES
77		4000Ω CT	2.5 Henries CT	5114			

CHOKE (BASS BOOST)

ITEM NO.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: D.C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000∿)	REPLACEMENT DATA: HOFFMAN PART NO.	REPLACEMENT DATA: STANCOR PART NO.	REPLACEMENT DATA: THORDARSON PART NO.	INSTALLATION NOTES
78		450Ω	9 Henries	5113			

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: HOFFMAN PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	INSTALLATION NOTES
79	10400Ω CT	8.4Ω	600Ω CT	.65Ω	5115	A-3870*	T22S47*	*Drill one new mounting hole.
80	9000Ω	3.6Ω	580Ω	.92Ω	5100	A-3878	T22S47	

PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: HOFFMAN PART No.	REPLACEMENT DATA: JENSEN PART No.	REPLACEMENT DATA	INSTALLATION NOTES
	FIELD RES.	VC IMP.				
81	520Ω	8.4Ω	9035			
	CONE DIA.	VC DIA.				
82	11"	1-3/4"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
	FIELD	VC IMP.		ST-107		
83	PM	3.6Ω	9036	Mod. P8-V		
	CONE DIA.	VC DIA.				
84	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

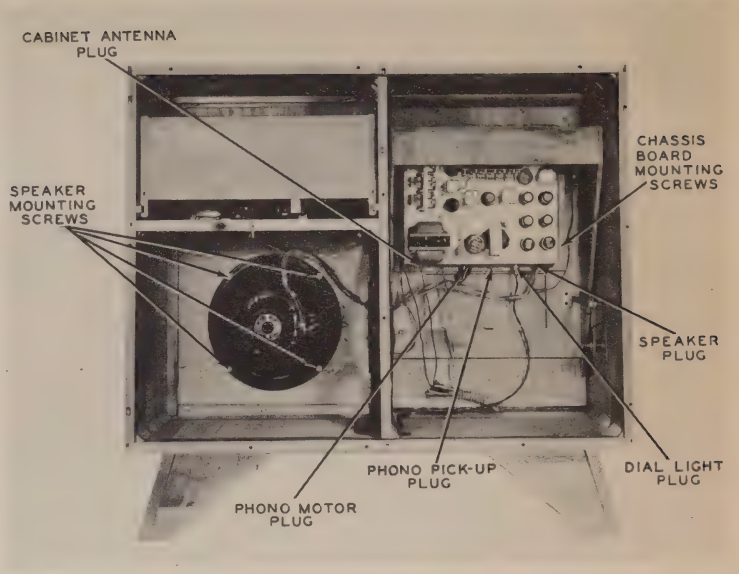
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: HOFFMAN PART No.	REPLACEMENT DATA: MEISSNER PART No.	
85	Loop Ant. Band		.5Ω	55210		
86	Ant.Coil A		3.5Ω	5220		
87A	" " B	.2Ω	.1Ω	5217		Items 87A & 87B are wound on same form.
B	" " C	.1Ω	0Ω			
88	RF Coil A	1Ω	3.5Ω	5216		
89A	" " B	.4Ω	.2Ω	5219		Items 89A & 89B are wound on same form.
B	" " C	.8Ω	0Ω			
90	Osc. Coil A		4.5Ω	5215	14-1040	
91	PB Osc. " A		2Ω	55210		Items 91, 92, 93, 94 & 95 are part of push-button tuning assembly.
92	" " " A		2Ω	55210		
93	" " " A		1Ω	55210		
94	" " " A		1Ω	55210		
95	" " " A		.8Ω	55210		
96A	Osc. Coil B		.2Ω	5218		Items 96A & 96B are wound on same form.
B	" " C					
97	Input IF	13Ω	12Ω	5213	16-6658	
98	Output IF	13.5Ω	13Ω	5214	16-6660	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: HOFFMAN PART No.	REPLACEMENT DATA	INSTALLATION NOTES
99	Bayonet	6-8	0.25	Blue			Type 44
100	"	"	"	"			"
101	"	"	"	"			"
102	"	"	"	"			"

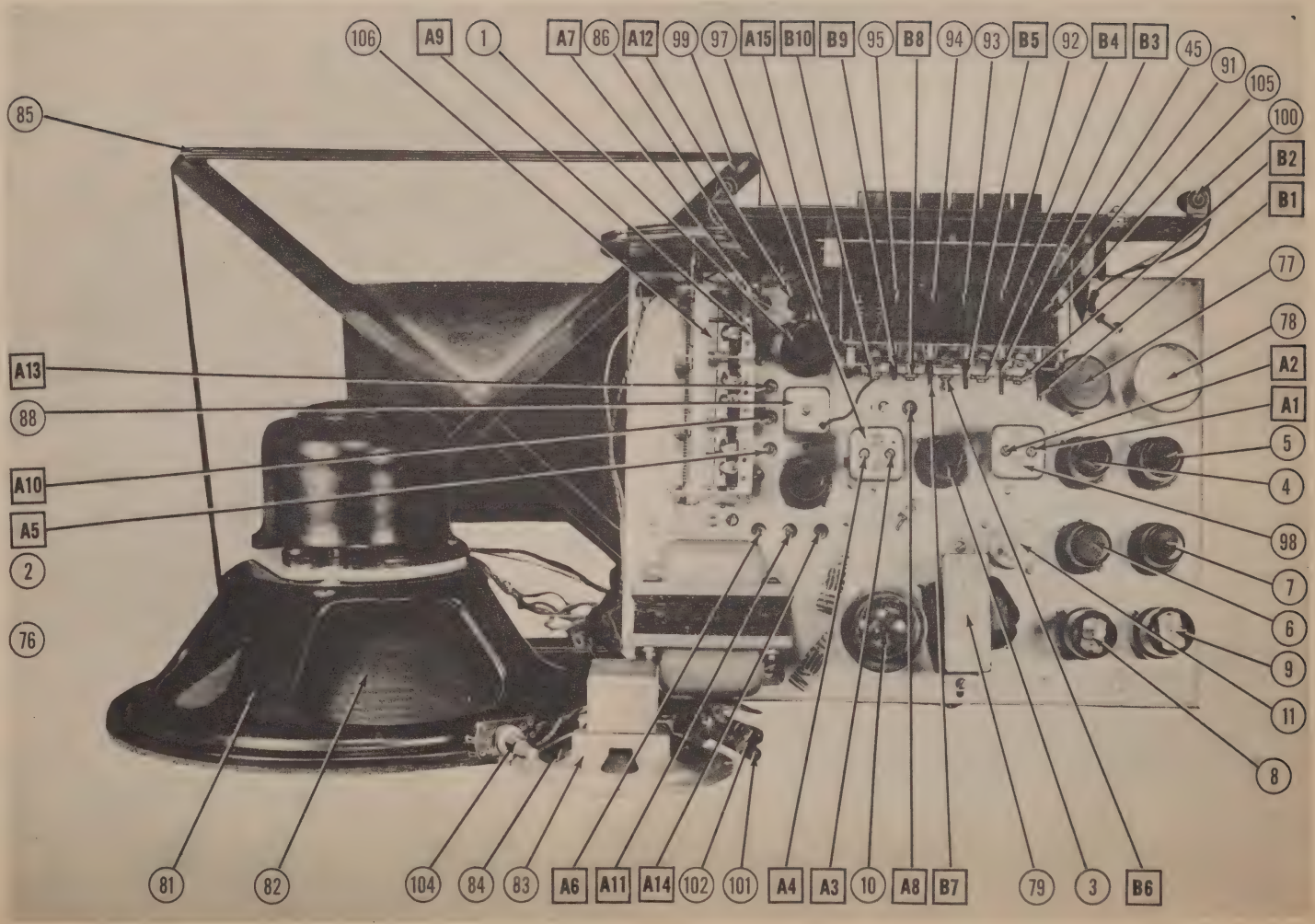
MISCELLANEOUS

ITEM No.	PART NAME	HOFFMAN PART No.	NOTES
103	Switch	6005	Band-Phono
104	"	6001	HI-Freq. Speaker
105	Pushbutton Assy.	6004	
106	Tuning Capacitor	4403	(12-277MMF) BC-Each section (11-172MMF) SW-Each section
A5, A10	Trimmer Strip	4300	BC Osc. Adj. SW #1 Osc. Adj.
A13			SW #2 Osc. Adj.
A6, A11	Trimmer Strip	4300	BC RF Adj. SW #1 RF Adj.
A14			SW #2 RF Adj.
A7, A12	Trimmer Strip	4300	BC Ant. Adj. SW #1 Ant. Adj.
A15			SW #2 Ant. Adj.
A8	Trimmer	4301	BC Osc. Padder
	Crystal Cartridge		Astatic Type Nylon 1J



DISASSEMBLY INSTRUCTIONS

1. Remove six push-on type control knobs.
2. Remove speaker plug from chassis.
3. Remove four screws holding speaker in cabinet.
4. Remove two screws holding Hi frequency speaker in cabinet.
5. Remove S.W. antenna plug from chassis.
6. Remove phono compartment and cabinet pilot light plug from chassis.
7. Remove phono-pickup plug from chassis.
8. Remove phono motor plug from chassis.
9. Remove two wood screws holding loop antenna in cabinet.
10. Remove five wood screws holding chassis mounting board in cabinet. Remove chassis and loop antenna.
11. Remove lock nut from Hi frequency speaker switch on dial panel. Remove speakers.
12. Remove four bolts holding chassis to mounting board.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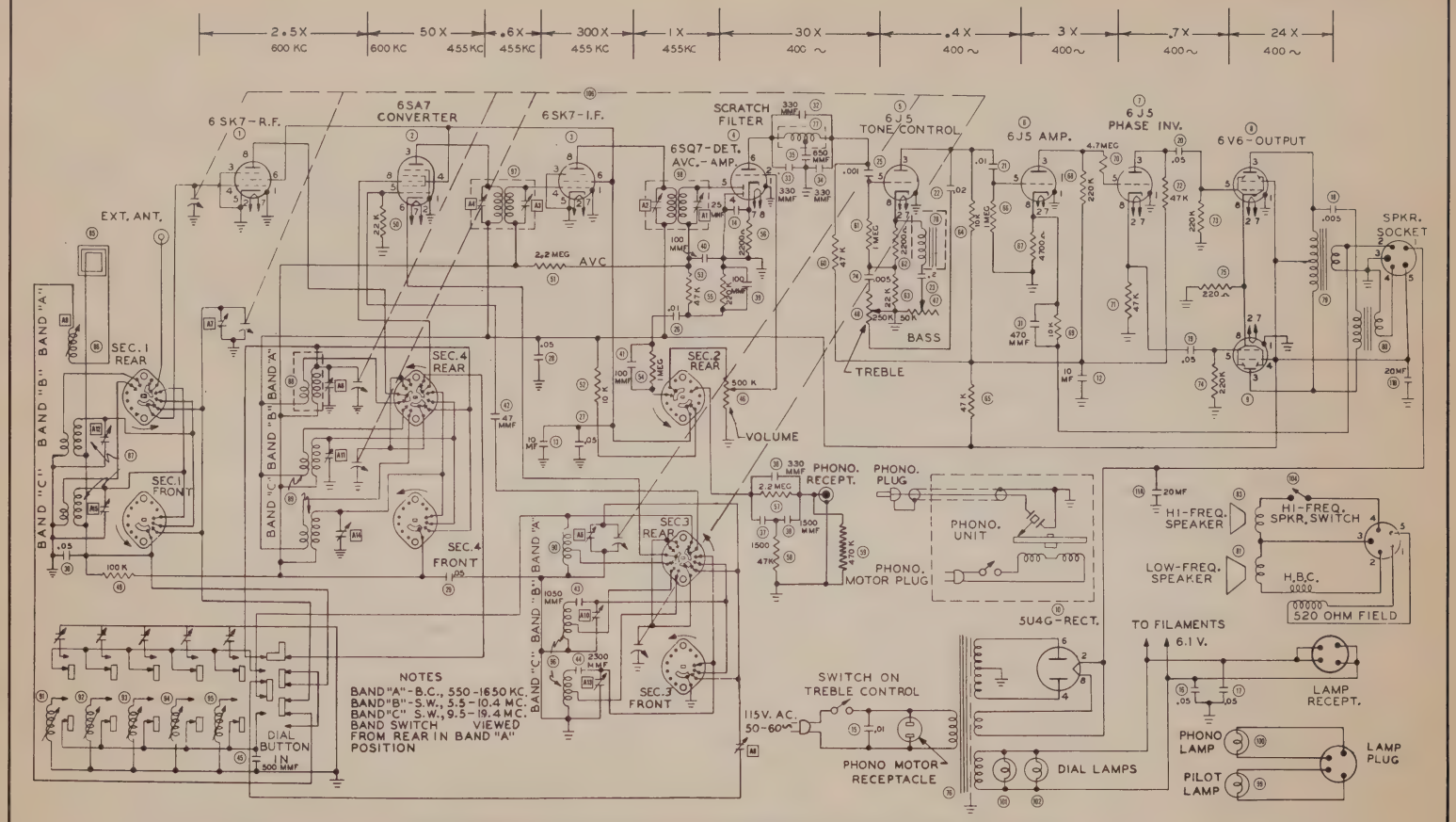


IF=455KC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

4710-14

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	6SK7	0 V.	*	0 V.	-.4V.DC	0 V.	103V.DC	*	270V.DC
2	6SA7	0 V.	*	270V.DC	103V.DC	-5.3V.DC	0 V.	*	-3V.DC
3	6SK7	0 V.	*	0 V.	-3V.DC	0 V.	103V.DC	*	270V.DC
4	6SQ7	0 V.	0 V.	.8V.DC	-2.3V.DC	0 V.	103V.DC	*	*
5	6J5	0 V.	*	113V.DC	0 V.	7V.DC	30V.DC	*	6.8V.DC
6	6J5	0 V.	*	22V.DC	0 V.	0 V.	125V.DC	*	14V.DC
7	6J5	0 V.	*	102V.DC	0 V.	4V.DC	0 V.	*	26V.DC
8	6V6GT	0 V.	*	260V.DC	270V.DC	0 V.	0 V.	*	16V.DC
9	6V6GT	0 V.	*	260V.DC	270V.DC	0 V.	0 V.	*	16V.DC
10	5U4G	0 V.	340V.DC	0 V.	310V.AC	0 V.	310V.AC	103V.DC	340V.DC

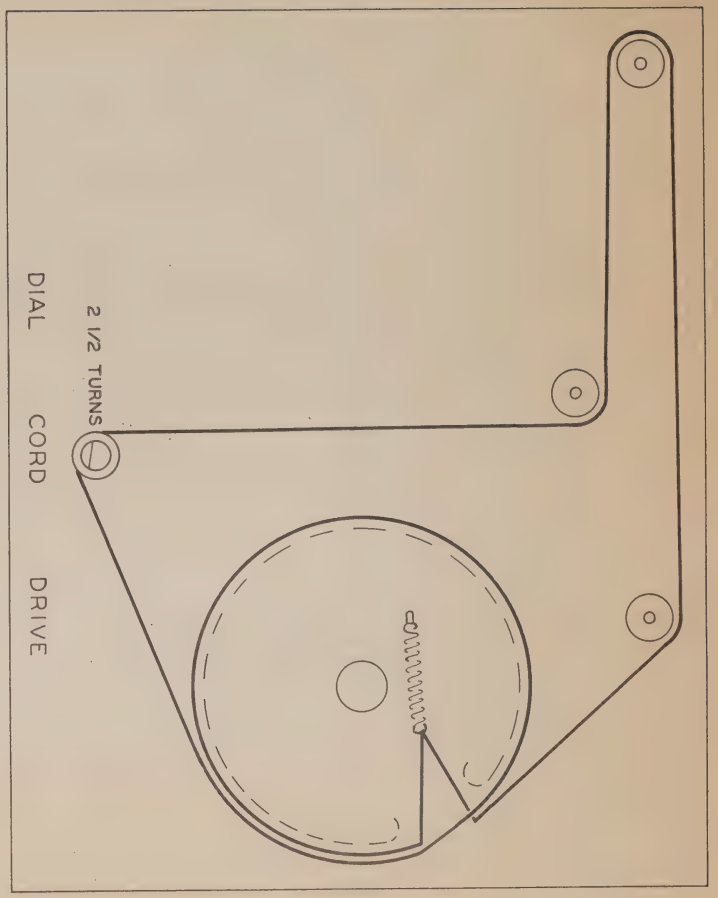
* READ 6.2V.AC BETWEEN FILAMENT PINS

RESISTANCE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	6SK7	0 Ω	INF.	0 Ω	3MEG.	0 Ω	80KΩ	INF.	70KΩ
2	6SA7	0 Ω	INF.	70 KΩ	80KΩ	20KΩ	.6Ω	INF.	3 MEG.
3	6SK7	0 Ω	INF.	0 Ω	3MEG.	0 Ω	80 KΩ	INF.	70KΩ
4	6SQ7	0 Ω	500KΩ	2.2 KΩ	230KΩ	0 Ω	165KΩ	INF.	INF.
5	6J5	0 Ω	INF.	130KΩ	27Ω	850 KΩ	20KΩ	INF.	22KΩ
6	6J5	0 Ω	INF.	340KΩ	.3Ω	1 MEG.	120 KΩ	INF.	2.8KΩ
7	6J5	0 Ω	INF.	165KΩ	INF.	5MEG.	INF.	INF.	47KΩ
8	6V6GT	0 Ω	INF.	70KΩ	70KΩ	220KΩ	INF.	INF.	190Ω
9	6V6GT	0 Ω	INF.	70KΩ	70KΩ	220KΩ	INF.	INF.	190Ω
10	5U4G	0 Ω	70KΩ	INF.	85Ω	INF.	78Ω	80KΩ	70KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to front BC stator of tuning cap. Low side to chassis.	455KC	BC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output
2	200MMFD	High side to green white loop lead. Low side to chassis.	1650KC	"	"	"	A5	" " " "
3	200MMFD	"	1400KC	"	Tune for maximum output.	"	A6,A7	" " " "
4	200MMFD	"	600KC	"	"	"	A8	Rock tuning cap. and adjust for maximum output.
5	200MMFD	"	"	"	"	"	A9	Adjust for maximum output Repeat Steps 2 to 5 until no further improvement can be made.
6	400Ω	High side to ext. ant. plug. Low side to chassis.	10.4MC	SW I	Tuning cap. fully open.	"	A10	Adjust for maximum output
7	400Ω	"	9.0MC	"	Tune for maximum output.	"	A11,A12	Rock tuning cap. and adjust for maximum output.
8	400Ω	"	19.4MC	SW II	Tuning cap. fully open.	"	A13	Adjust for maximum output
9	400Ω	"	15MC	"	Tune for maximum output.	"	A14, A15	Rock tuning cap. and adjust for maximum output. Install in cabinet.
10		Loop	1400KC	BC	"	"	A7	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.

PUSH BUTTON ADJUSTMENTS

Range of the buttons reading from left to right are as follows: 550-800KC, 550-800KC, 720-1200KC, 720-1200KC, 900KC-1500KC, and manual - used to disengage pushbutton tuning.

1. Apply power to receiver and allow it to warm up for about 15 minutes. Turn bandswitch to broadcast position.
2. Make a list of stations desired to be set up ranging from low to high frequency stations making certain that the stations fall within the range of the pushbutton to be set up.
3. Push in first button on left and adjust B1 to tune in 1st station selected in Step 2.
4. Adjust B2 for maximum volume.
5. To set up the remaining buttons follow the same procedure outlined above adjusting B3, B5, B7 and B9 to tune in stations and B4, B6, B8, and B10 for maximum volume.
6. For optimum performance repeat all adjustments.

KNIGHT
MODEL 5B-160

KNIGHT
MODEL 5B-160

KNIGHT MODEL 5B-160

TRADE NAME	Knight, Model 5B-160
SUPPLIER	Allied Radio Corp., 833 W. Jackson Blvd., Chicago 7, Ill.
TYPE SET	AC Operated Radio- Phono Combination Superheterodyne With Loop Antenna
TUBES (FOUR)	Types 14Q7 Converter, 14A7 IF Amp., 14B6 Det.-AVC-AF, 50A5 Power Output, or octal type tube equivalents.
POWER SUPPLY	110-125 Volts AC RATING .230Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540 - 1720KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use isolation transformer if available. If not, connect a capacitor in series with the low side of the signal generator and B-. Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position, output from signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1MFD.	High side to rear stator of tuning cap. Low side to B-.	455KC	Tuning Cap. fully open	Across Voice Coil	A1, A2, A3, A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy antenna to .001 MFD to reduce hum modulation.
2	"	"	1720KC	"	"	A5	"
3	200MMF.	High side to ext. ant. lead. Low side to chassis.	1400KC	Tune for max. output.	"	A6	Adjust for maximum output.
4	"	"	600KC	"	"	A7	Rock tuning capacitor and adjust for maximum output. Repeat steps 2,3,&4 until no increase in output is obtained

DISASSEMBLY INSTRUCTIONS

1. Remove three push-on type control knobs.
2. Remove four screws holding chassis mounting board to cabinet. Remove board.
3. Remove one hex nut holding loop antenna to cabinet.
4. Remove two bolts holding mounting board to chassis. Remove chassis.
5. Remove phono motor plug from chassis.
6. Remove phono pick-up plug from chassis.

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PARTS LIST AND DESCRIPTIONS

KNIGHT MODEL 5B-160

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: KNIGHT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1A	Converter	14Q7	14Q7	8AL	
B	"	12SA7	12SA7	8R	
2A	IF Amp.	14A7	14A7	8V	
B	"	12SK7	12SK7	8N	
3A	Det.-AVC-AF	14B6	14B6	8W	
B	"	12SQ7	12SQ7	8Q	
4A	Power Output	50A5	50A5	6AA	
B	"	50L6	50L6	7AC	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: KNIGHT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
5A	40	150	EC-10	PRSA150-40-40	BRD4415	2N511	M-2x40-150	TA-440	Filter - Red
B	40	150							
6	.05	400	PC-5	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
7	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
8	.005	600	PC-10	684-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
9	.005	600	PC-10	684-005	DT6D5	TP408	S-6-005	TC-25	" "
10	.05	400	PC-5	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
11	.1	400	PC-8	484-.1	DT4P1	TP428	S-4-1	TC-1	Line Isolation
12	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	Ext. Ant. Coupling‡
13	.05	400	PC-5	484-05	DT4S5	TP426	S-4-05	TC-15	Phono Isolation
14	500	500	MC-5	1468-0005	SW5T5	MC245	MO.5-35	1FM-35	Audio Plate Bypass
15	100	500	MC-2	1468-0001	SW5T1	MC235	MO.5-31	1FM-31	Diode Filter
16	50	500	MC-4	1468-00005	SW5Q5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
17	500	500	MC-5	1468-0005	SW5T5	MC245	MO.5-35	1FM-35	Phono Coupling

‡Not used in all models

CONTROLS

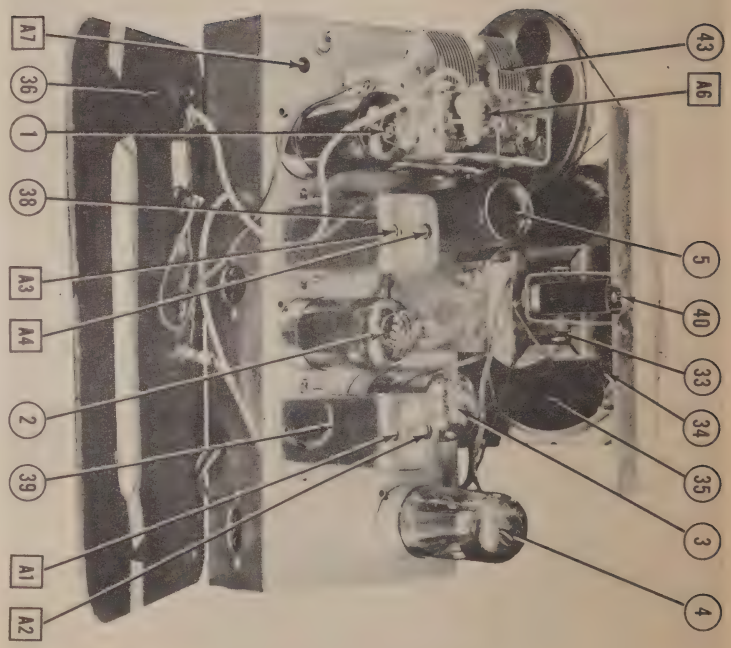
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18A	1 Meg	1	VC-4	MK402	D13-137	AM-63-2	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 18A Per Instructions
C	Switch		"	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	IRC PART No.	IDENTIFICATION CODES
19	22KΩ	½	IR-9	BTS-22K	Red- Red - Or. Oscillator Grid
20	220KΩ	½	IR-20	BTS-220K	Red - Red - Yl. Line Isolation
21	3.3 Meg.	½		BTS-3.3Meg	Or. - Or.- Grn. AVC Network See Note 1
22	470KΩ	½	IR-11	BTS-470K	Yl. - Vi. - Yl. Series Phono
23	50KΩ	½	IR-10	BTS-47K	Grn. - Blk. - Or. Diode RF Filter
24	2.2 Meg.	½	IR-13	BTS-2.2Meg	Red - Red - Grn. AF Grid
25	470KΩ	½	IR-11	BTS-470K	Yl. - Vi. - Yl. AF Plate Load
26	470KΩ	½	IR-11	BTS-470K	Yl. - Vi. - Yl. Output Grid
27	150Ω	½	IR-14	BW-½-150	Br. - Grn. - Br. Output Cathode
28	220KΩ	½	IR-20	BTS-220K	Red - Red - Yl. Phono Shunt
29	470Ω	½	IR-1	BTS-470	Yl. - Vi. - Br. IF Cathode See Note 2
30A	30Ω	5	WR-5	BW-2-33	Pilot Light Shunt See Note 3
B	165Ω			ABA-200	Series Filament See Note 4
31	82Ω	2	IR-35	BW-2-82	Gray - Red - Blk. Surge Limiter
32	2200Ω	1	IR-25	BTA-2200	Red - Red - Red Filter

NOTE 1: Some models use 3.9Meg in this application. IRC replacement BTS-3.9Meg
NOTE 2: Not used in all models.
NOTE 3: Some models use a 33Ω 2 Watt Resistor in this application. Replacement Same as Item 30A
NOTE 4: Some models use 200Ω 5 Watt and 820Ω ½ Watt resistors in parallel in this application. On IRC replacement, set slider 165Ω from one end.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA KNIGHT PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDAR'N PART No.	REPLACEMENT DATA	INSTALLATION NOTES
33	6400Ω	3.1Ω	250Ω	.4Ω	Part of SPK-5	A-3878*	T22846*		* Bend mounting tabs down, file out slots and mount on original bracket

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA KNIGHT PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA	INSTALLATION NOTES
34	FIELD P.M.	V.C. IMP. 3.1Ω	SPK-5	ST-105 † Mod. P5-X		† Drill and tap magnet frame. Trim flange.
35	CONE DIA. 4-3/4"	V.C. DIA. 1/2"	NOT READILY	REPLACEABLE - USE COMPLETE SPEAKER UNIT.		

R F COILS

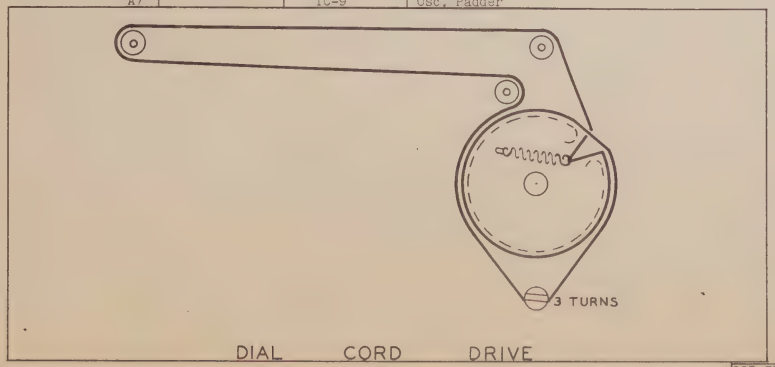
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA KNIGHT PART No.	REPLACEMENT DATA MEISSNER PART No.
36	Loop Ant.	.1Ω	1.2Ω	LL-7	
37	Osc. Coil		6.5Ω	LO-7	14-1040
38	Input IF	19Ω	19Ω	LI-1	16-6658
39	Output IF	20Ω	20Ω	LI-2	16-6660

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA KNIGHT PART No.	REPLACEMENT DATA	INSTALLATION NOTES
40	Bayonet	6-8	0.15	Brown	PB-1		Type 47

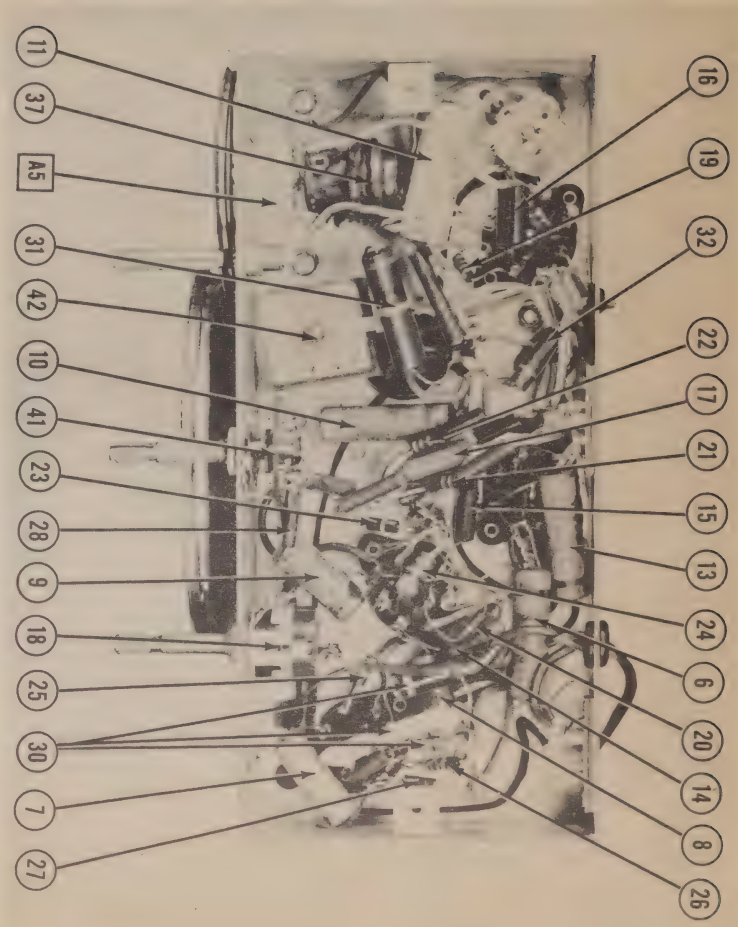
MISCELLANEOUS

ITEM No.	PART NAME	KNIGHT PART No.	NOTES
41	Switch	SW-1	Radio - Phono
42	Rectifier	SR-1	Selenium
43	2 Gang Var. Cap.	GC-1	16-562MMF, 15-475MMF
	Crystal Cartridge	L-75	ASTATIC Type L-75-A
A5	Trimmer	TC-6	Osc. Adj.
A6	"	TC-7	Ant. Adj.
A7	"	TC-9	Osc. Padder

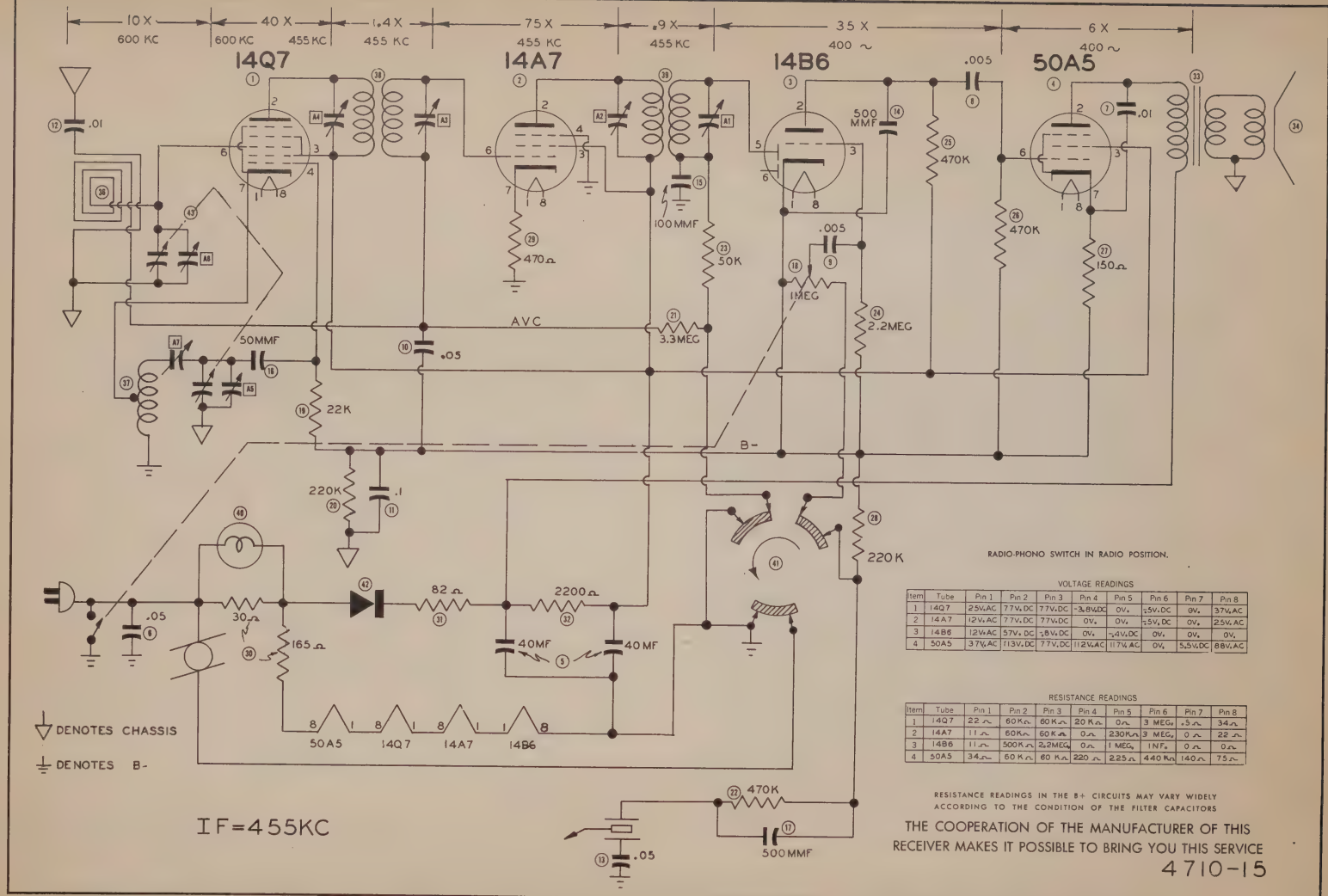


DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



MODEL SB-160



RADIO-PHONO SWITCH IN RADIO POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14Q7	25V.AC	77V.DC	77V.DC	-3.8V.DC	0V.	-5V.DC	0V.	37V.AC
2	14A7	12V.AC	77V.DC	77V.DC	0V.	0V.	-5V.DC	0V.	25V.AC
3	14B6	12V.AC	57V. DC	-.8V.DC	0V.	-.4V.DC	0V.	0V.	0V.
4	50A5	37V.AC	113V.DC	77V.DC	112V.AC	117V.AC	0V.	5.5V.DC	88V.AC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14Q7	22Ω	60KΩ	60KΩ	20KΩ	0Ω	3 MEG.	.5Ω	34Ω
2	14A7	11Ω	60KΩ	60KΩ	0Ω	230KΩ	3 MEG.	0Ω	22Ω
3	14B6	11Ω	500KΩ	2.2MEG.	0Ω	1 MEG.	INF.	0Ω	0Ω
4	50A5	34Ω	60 KΩ	60 KΩ	220Ω	225Ω	440 KΩ	140Ω	75Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

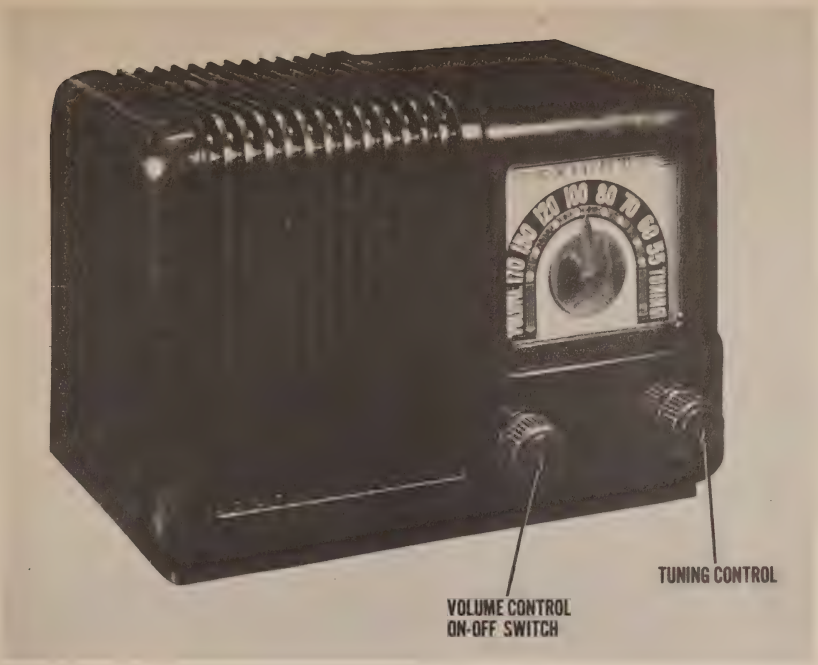
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

4710-15

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

KNIGHT
MODELS 5B-175, 5B-176



KNIGHT
MODELS 5B-175, 5B-176

KNIGHT MODEL 5B-175

TRADE NAME	Knight, Models 5B-175, 5B-176
SUPPLIER	Allied Radio Corp., 833 W. Jackson Blvd., Chicago 7, Ill.
TYPE SET	AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types, 12BE6 or 12SA7GT Converter, 12BA6 or 12SK7GT IF Amp., 12AT6 Det.-AVC-AF, 50B5 or 50L6GT Power Output, 35W4 Rectifier.
POWER SUPPLY	110-125 Volts AC-DC
TUNING RANGE—BROADCAST	540-1720KC RATING .210 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum position, output of signal should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to B-.	455KC	Tuning cap. fully open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	.1 MFD.	"	1720KC	"	"	A5	Adjust for maximum output.
3	200MMF.	High side to ext. ant. lead. Low side to B-.	1400KC	Tune for maximum output.	"	A6	" " " "

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PARTS LIST AND DESCRIPTIONS

KNIGHT MODELS 5B-175, 5B-176

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: KNIGHT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1A	Converter	12BE6	12SE6	7CH	
B	"	12SA7GT	12SA7GT	8AD	
2A	IF Amp.	12BA6	12BA6	7BK	
B	"	12SK7GT	12SK7GT	8BN	
3	Det.-AVC-AF	12AT6	12AT6	7BT	
4A	Power Output	50B5	50B5	7BZ	
B	" "	50L6GT	50L6GT	7AC	
5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: KNIGHT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150	EC-3	PRSA150-40-20	BRD4215	2N514	DSB-2x40-150	TA-240	Filter - Red
B	20	150							" - White
7	.05	400	PC-5	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
8	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
9	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
10	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	" "
11	.05	400	PC-5	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
12	.1	400	PC-9	484-.1	DT4P1	TP428	S-4-1	TC-1	Line Isolation
13	.01	400	PC-7	484-01	DT4S1	TP421	S-4-01	TC-11	Ext. Ant. Coupling
14	500	500	MC-5	1468-0005	5WS75	MC245	M0.5-35	1FM-35	Audio Plate Bypass
15	100	500	MC-2	1468-0001	5WS71	MC235	M0.5-31	1FM-31	Diode Filter
16	50	500		1468-00005	5WS95	MC225	M0.5-45	1FM-45	Osc. Grid Capacitor

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17A	1 Meg.	1	VC-3	MK402	D13-137	AM-63-Z	Volume Control
B	Shaft			Not Req.	E	KSS-3	Attach to 17A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

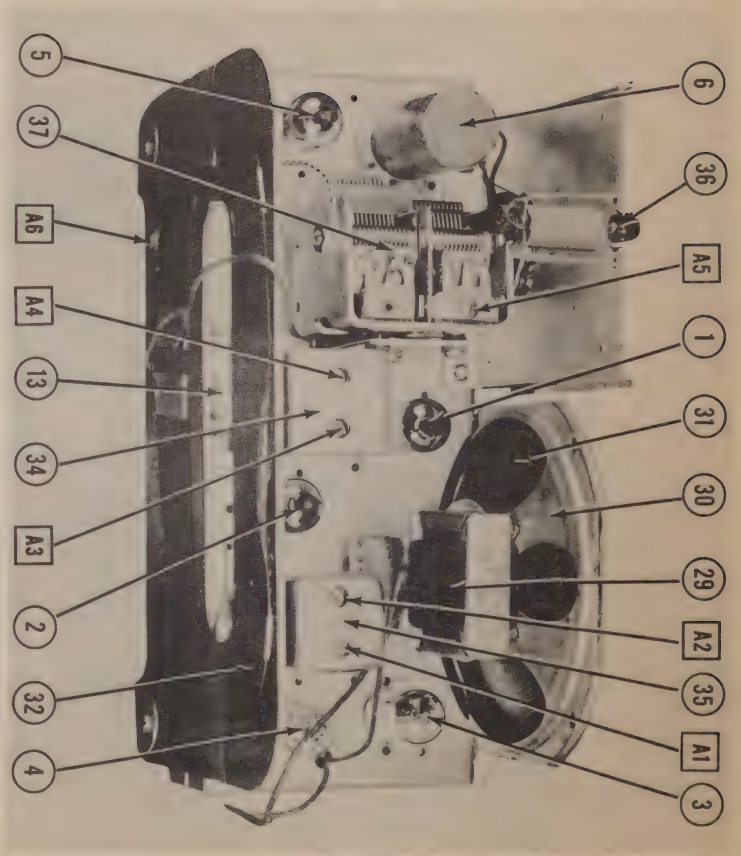
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	IRC PART No.	IDENTIFICATION CODES
18	33KΩ	½	1R-16	BTS-33K	Or.-Or.-Or. Oscillator Grid
19	2 Meg.	½	1R-13	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
20	2 Meg.	½	1R-13	BTS-2.2 Meg.	Red-Red-Grn. AF Grid
21	470KΩ	½	1R-11	BTS-470K	Yl.-Vi.-Yl. AF Plate Load
22	470KΩ	½	1R-11	BTS-470K	Yl.-Vi.-Yl. Output Grid
23	150Ω	½	1R-14	BW-½-150	Br.-Grn.-Br. Output Cathode
24	2200Ω	1		BTA-2200	Red-Red-Red Filter
25	47Ω	½	1R-4	BW-½-47	Yl.-Vi.-Blk. Rectifier Ballast
26	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Diode RF Filter-See Note
27	33Ω	½		BW-½-33	Or.-Or.-Blk. Parasitic Suppressor-See Note
28	100Ω	½		BW-½-100	Br.-Blk.-Br. IF Cathode-See Note

Note-Not used in all models.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: KNIGHT PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
29	2040Ω	2.8Ω	150Ω	.59Ω	Part of SPK-4	A-3876*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA KNIGHT PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105		
30	PM	2.8Ω	SPK-4	Mod. P5-X		
	CONE DIA.	VC DIA.				
31	4-9/16"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

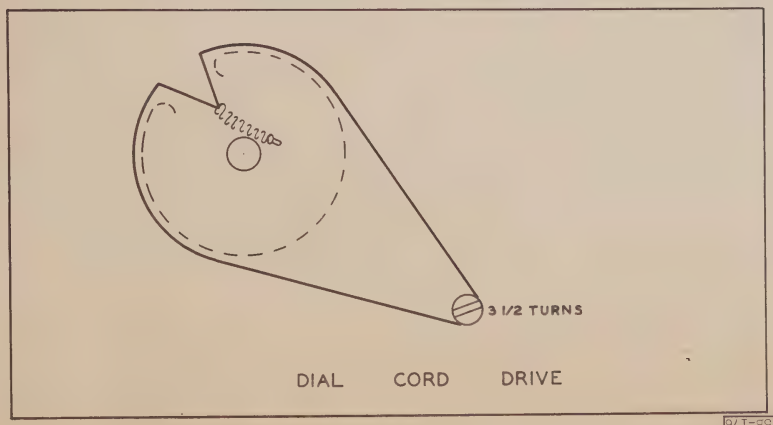
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA KNIGHT PART No.	MEISSNER PART No.
32	Loop Ant.	.1Ω	1.5Ω	LL-1	
33	Osc. Coil		7.8Ω	LO-2	14-1040
34	Input IF	19Ω	19Ω	LI-1	16-6658
35	Output IF	20Ω	20Ω	LI-2	16-6660

DIAL LIGHT

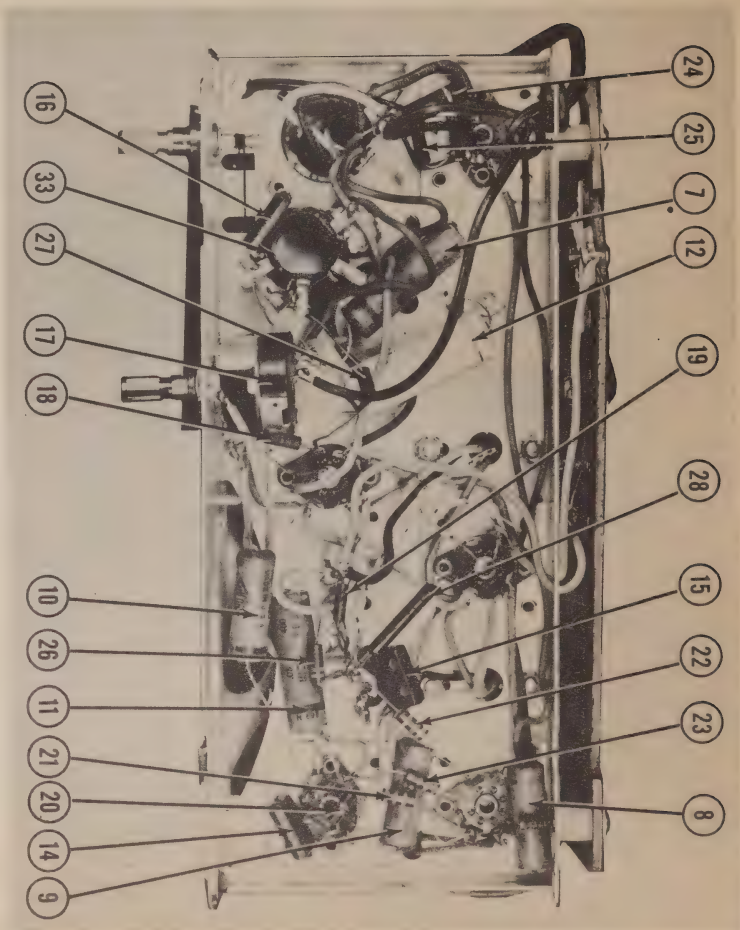
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA KNIGHT PART No.		INSTALLATION NOTES
36	Bayonet	6-8	0.15	Brown	PB-1		Type 47

MISCELLANEOUS

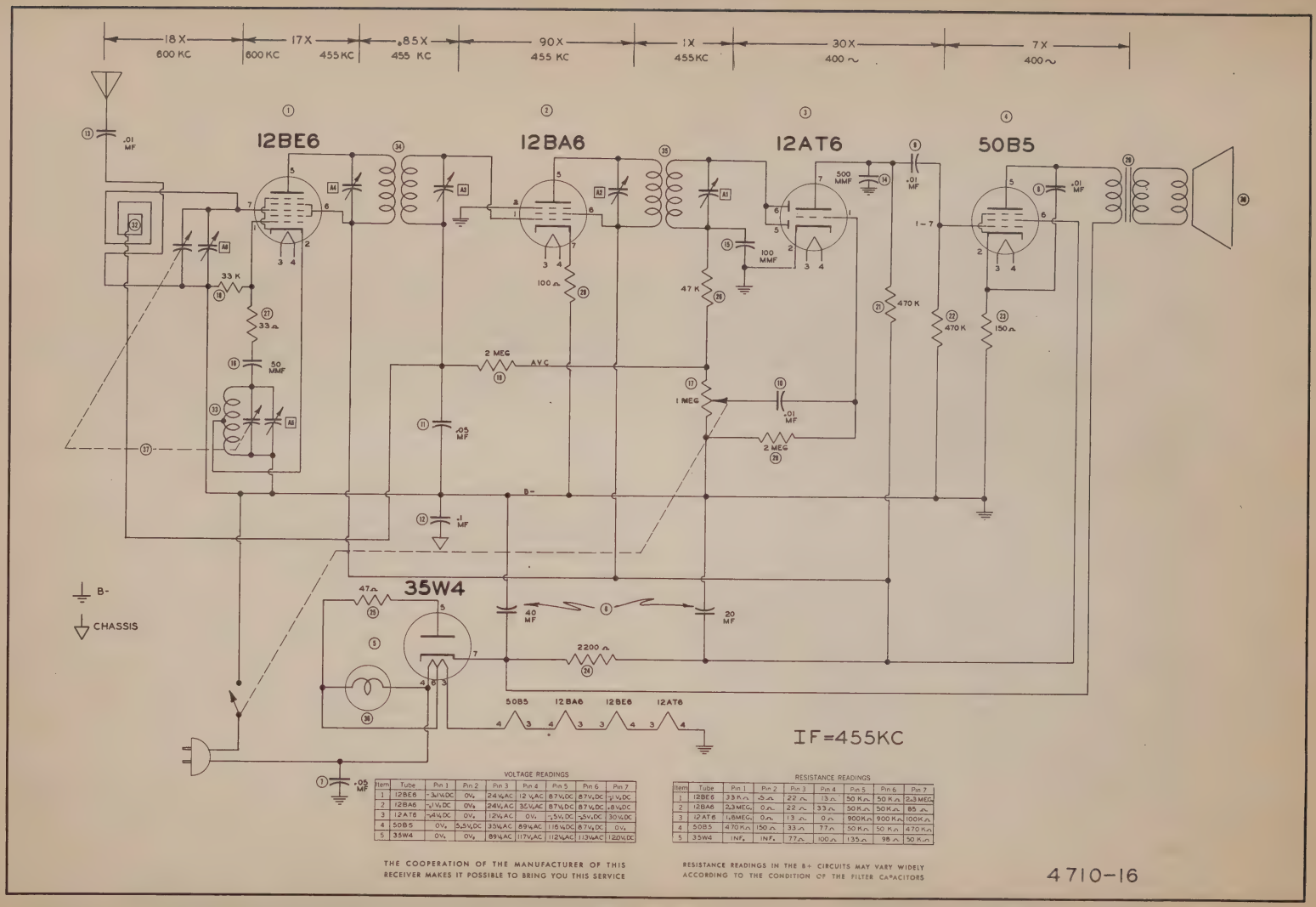
ITEM No.	PART NAME	KNIGHT PART No.	NOTES
37	2 Gang Var. Cap	GC-2	8-368 MMF, 29-194 MMF
A6	Trimmer	TC-7	Antenna Adjustment



CHASSIS—BOTTOM VIEW



KNIGHT MODELS 5B-175, 5B-176



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	-.3V DC	0V	24V AC	12 V AC	87V DC	87V DC	-1V DC
2	12BA6	-1V DC	0V	24V AC	35V AC	87V DC	87V DC	-8V DC
3	12AT6	-6V DC	0V	12V AC	0V	-25V DC	-25V DC	-30V DC
4	50B5	0V	5.5V DC	35V AC	89V AC	115V DC	87V DC	0V
5	35W4	0V	0V	89V AC	117V AC	112V AC	113V AC	120V DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12BE6	33 K Ω	.5 Ω	22 Ω	13 Ω	50 K Ω	50 K Ω	2.3 MEG.
2	12BA6	2.3 MEG.	0 Ω	22 Ω	33 Ω	50 K Ω	50 K Ω	85 Ω
3	12AT6	1.8 MEG.	0 Ω	13 Ω	0 Ω	900 K Ω	900 K Ω	100 K Ω
4	50B5	470 K Ω	150 Ω	33 Ω	77 Ω	50 K Ω	50 K Ω	470 K Ω
5	35W4	INF.	INF.	77 Ω	100 Ω	135 Ω	98 Ω	50 K Ω

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

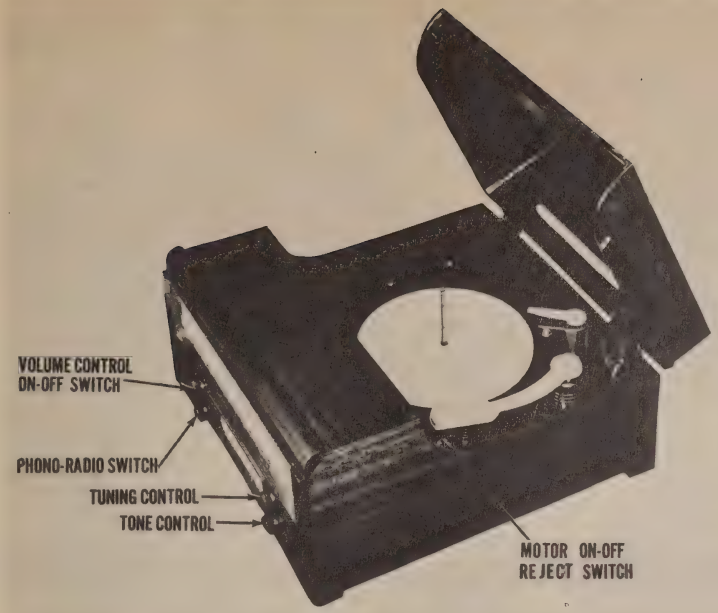
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-16

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

KNIGHT
MODEL 8B-210



KNIGHT
MODEL 8B-210

KNIGHT MODEL 8B-210

TRADE NAME	Knight, Model 8B-210
SUPPLIER	Allied Radio Corp., 833 W. Jackson Blvd., Chicago, Ill.
TYPE SET	AC Operated Combination Auto. Phono-Radio Superheterodyne With Loop Antenna
TUBES (EIGHT)	Types 6SA7 Converter, 6SK7 IF Amp.,6SQ7GT Det.-AVC, 6SJ7GT AF Amp., 6SJ7GT Phase Inverter, (2) 6K6GT Power Output, 6X5GT Rectifier
POWER SUPPLY	117 Volts AC — RATING .370 Amps. @ 117 Volts AC
TUNING RANGE—BROADCAST	530-1700 KC — SHORT WAVE

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer to last index mark at left end of dial. Volume control should be at maximum and output of signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjustments.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to stator of rear section of variable. Low side to chassis.	455KC	Variable fully open	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
200 MMFD	High side to ext. ant. lead. Low side to ext. ground lead.	1500KC	"	"	A5	" " " "
200 MMFD	"	1500KC	Tune to maximum output.	"	A6	" " " "

DISASSEMBLY INSTRUCTIONS

1. Remove four control knobs from front panel.
2. Remove two screws holding small panel. Remove panel.
3. Remove six screws holding phono turntable mounting board.
4. Remove phono-pickup plug from chassis.
5. Disconnect phono motor plug.
6. Lift out turntable.
7. Remove three hex bolts holding chassis.
8. Slide chassis out and lift up.

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PARTS LIST AND DESCRIPTIONS

KNIGHT MODEL 8B-210

TUBES

ITEM No.	USE	REPLACEMENT DATA: KNIGHT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	6SA7	6SA7	8R	
2	IF Amp.	6SK7	6SK7	8N	
3	Det.-AVC	6SQ7GT	6SQ7GT	8Q	
4	1st AF Amp.	6SJ7GT	6SJ7GT	8N	
5	Phase Inverter	6SJ7GT	6SJ7GT	8N	
6	Power Output	6K6GT	6K6GT	7S	
7	Power Output	6K6GT	6K6GT	7S	
8	Rectifier	6X5GT	6X5GT	6S	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: KNIGHT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9A	15	300			†EZ1A1350	TN129	DY-3x15-450§	†EL-253	Filter - Brown
B	15	300						"	" - Yellow
C	15	300			†BR1635			†EL-203	" - Red White
10	.05	400		484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
11	.05	400		484-05	DT4S5	TP426	S-4-05	TC-15	" "
12	.02	400		484-02	DT4S2	TP423	S-4-02	TC-12	Audio Coupling
13	.02	400		484-02	DT4S2	TP423	S-4-02	TC-12	" "
14	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Audio Screen Bypass
15	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	6SJ7 Screen Bypass
16	.002	600		684-002	DT6D2	TP405	S-6-002	TC-22	Audio Coupling
17	.05	400		484-05	DT4S5	TP426	S-4-05	TC-15	Screen Bypass
18	.05	400		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
19	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Tone Compensation
20	150	500		1468-00015	5W5T15	MC236	MO.5-315	1FM-315	IF Bypass Diode
21	150	500		1468-00015	5W5T15	MC236	MO.5-315	1FM-315	IF Bypass Vol. Cont.

†Do not use bypass section.
§Use mounting clip.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
22A	500KΩ	1	A-VC-1	MR48#	D13-133#	M-60-2#	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 22A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "
23A	20KΩ	1	C-VC-1	MR28	D16-119		Tone Control
B	Shaft		Not Req.	Not Req.	A		Attach to 23A per instructions

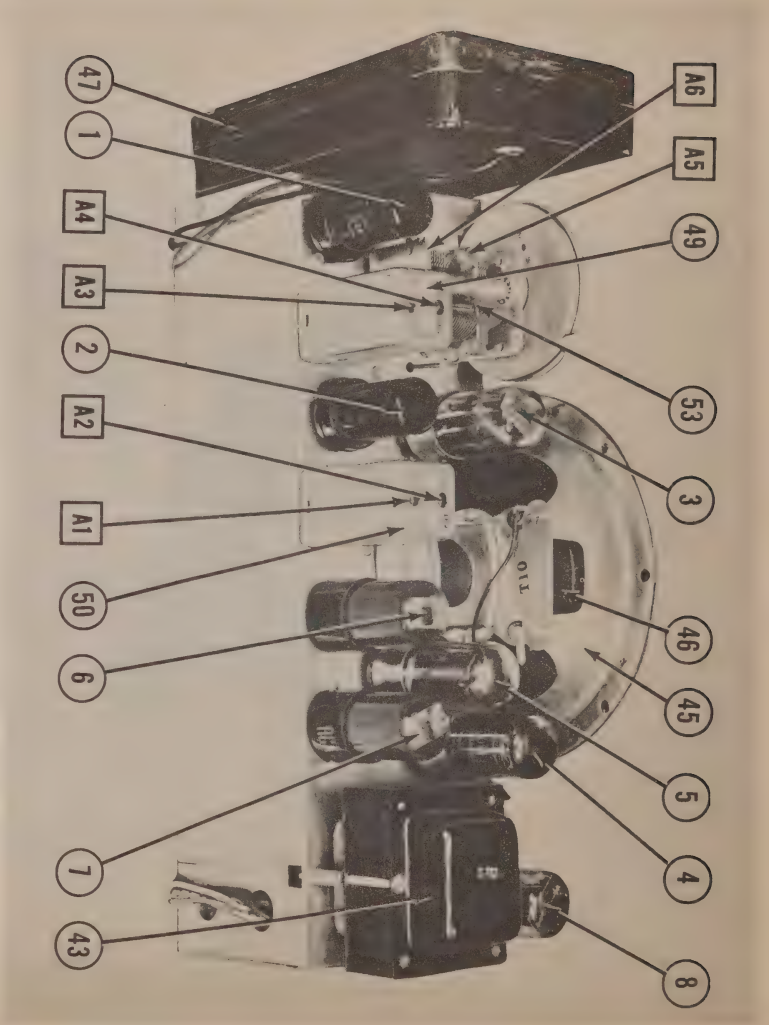
#Install a 47KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from shaft side. terminals down.)

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: KNIGHT PART No.	IRC PART No.	IDENTIFICATION CODES
24	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Grid
25	10KΩ	2		BT-2-10K	Br.-Blk.-Or. Screen Dropping
26	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
27	330KΩ	½		BTS-330K	Or.-Or.-Yl. Phono Shunt
28	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
29	180Ω	½		BW-½-180	Br.-Gray-Br. 1st AF Cathode
30	220KΩ	½		BTS-220K	Red-Red-Yl. 1st AF Plate Load
31	1.5 Meg.	½		BTS-1.5 Meg.	Br.-Grn.-Grn. 1st AF Screen Dropping
32	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Phase Inverter Grid
33	1000Ω	½		BTS-1000	Br.-Blk.-Red " " Cathode
34	220KΩ	½		BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
35	1.5 Meg.	½		BTS-1.5 Meg.	Br.-Grn.-Grn. Phase Inverter Screen Dropping
36	330KΩ	½		BTS-330K	Or.-Or.-Yl. Output Grid
37	330KΩ	½		BTS-330K	Or.-Or.-Yl. " "
38	1000Ω	1		BTA-1000	Br.-Blk.-Red Output Cathode
39	390Ω	2		BW-2-390	Or.-White-Br. Filter
40	2200Ω	2		BT-2-2200	Red-Red-Red "
41	1500Ω	½		BTS-1500	Br.-Grn.-Red Tone Compensation
42	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Series Volume Control-See Note 1

Note 1 - Not used in all models.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	KNIGHT PART No.	STANCOR PART No.	THORDARSON PART No.	
43	117VAC @ .37A	480VAC @ .048A	6.7VAC @ 3.1A		C-TR2		T22R01	

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE PRI.	IMPEDANCE SEC.	DC RES. PRI.	DC RES. SEC.	KNIGHT PART No.	STANCOR PART No.	THORDAR'N PART No.		
44	16000Ω CT	3.4Ω	500Ω CT	.4Ω	C-RT1	A-3842‡	T22S48		‡ Drill new mounting holes.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			KNIGHT PART No.	JENSEN PART No.		
45	FIELD FH	VC IMP. 3.4Ω	C-SP1	ST-108* Mod. P6-X		*Drill new mounting holes.
46	CONE DIA. 6-1/8"	VC DIA. 1/2"	CONE HAS SPECIAL ADJUSTMENT FEATURE - ORDER FROM MANUFACTURER.			

R F COILS

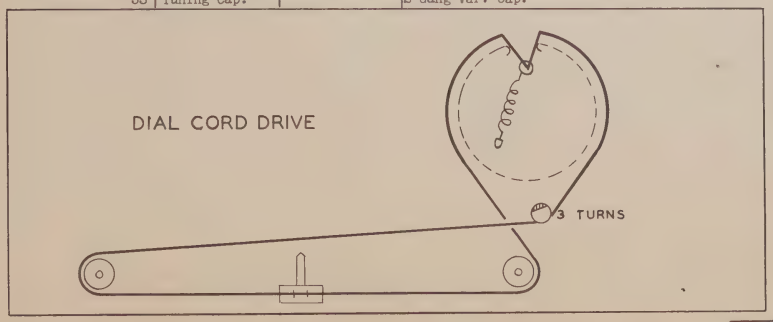
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA KNIGHT PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
47	Loop Ant.	.2Ω	3Ω			
48	Osc. Coil	.5Ω	6Ω	A-LC-1	14-1040	
49	Input IF	21Ω	21Ω	C-LF-1	16-6658	
50	Output IF	16.5Ω	16.5Ω	C-LF-2	16-6660	

DIAL LIGHT

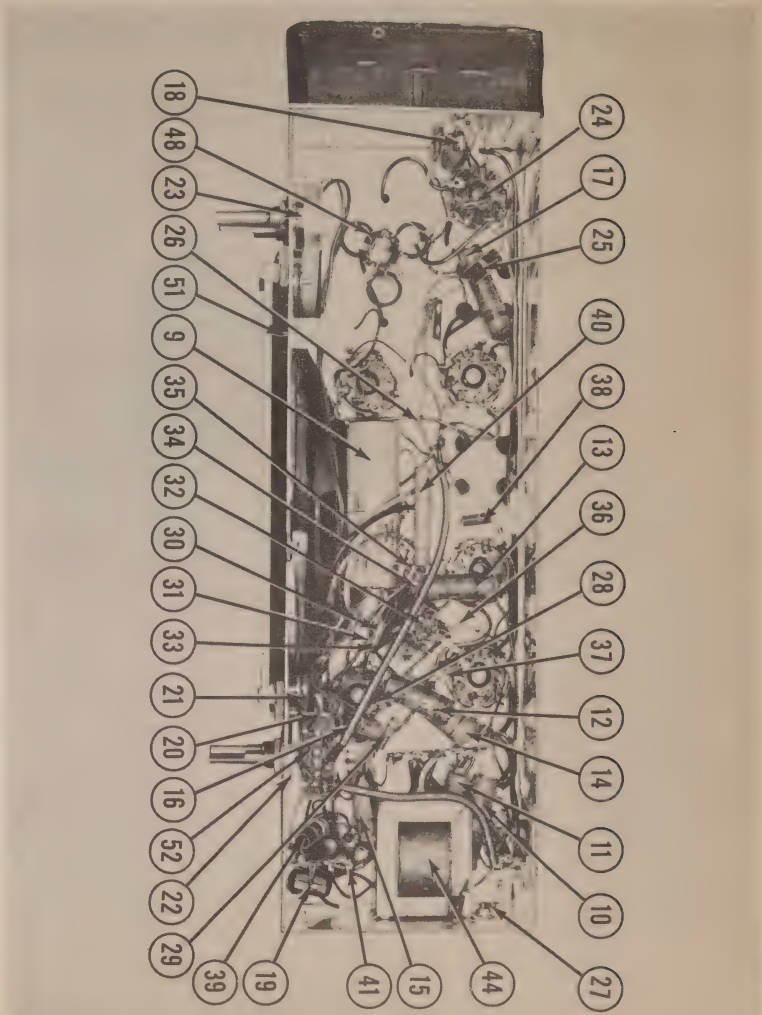
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA KNIGHT PART No.		INSTALLATION NOTES
51	Bayonet	6-8	0.15	Brown			Type 47

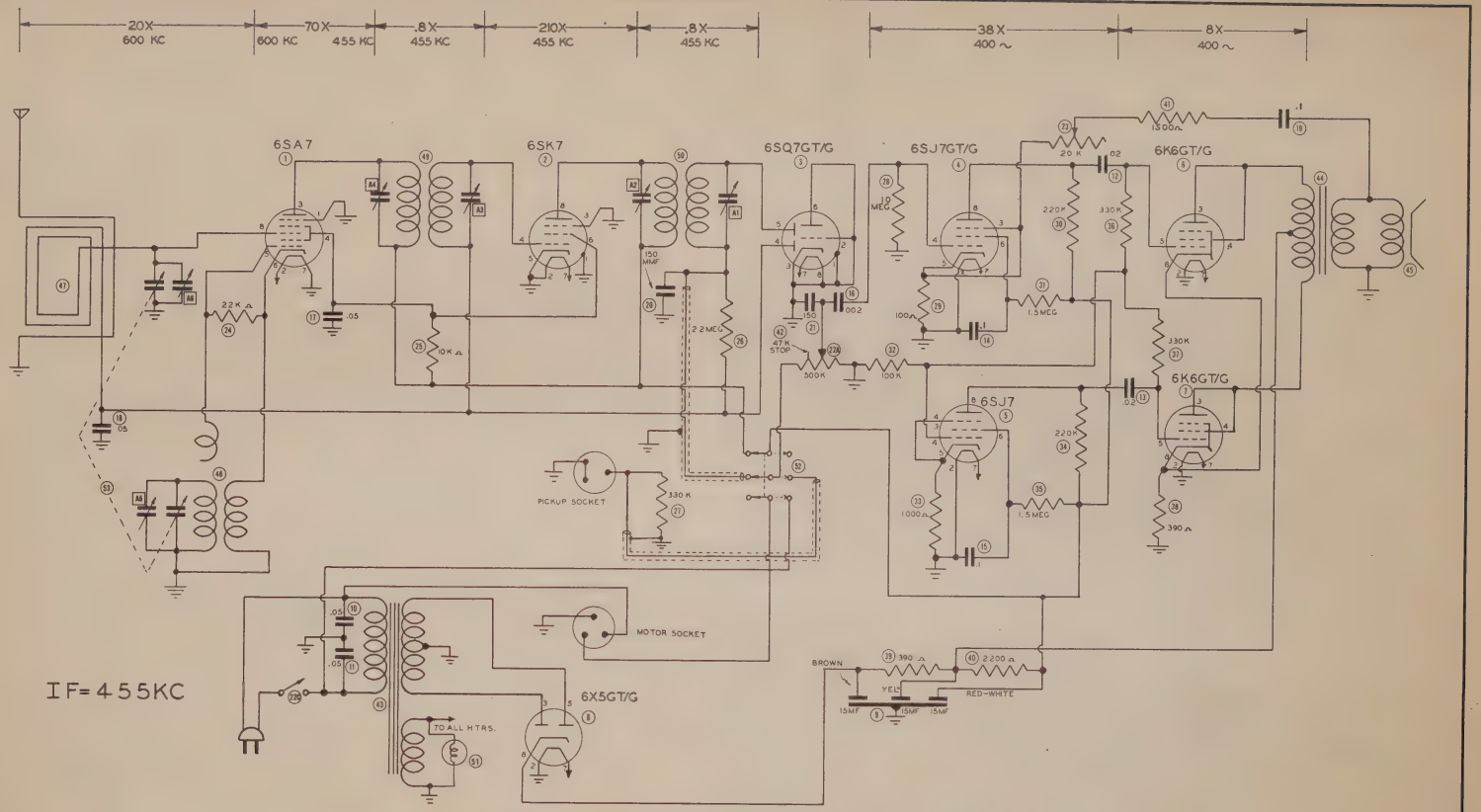
MISCELLANEOUS

ITEM No.	PART NAME	KNIGHT PART No.	NOTES
52	Switch		Radio-Phono
53	Tuning Cap.		2 Gang Var. Cap.



CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SA7	0V.	0V.	87 V.DC	90 V.DC	±6 V.DC	0V.	6.7 V.AC	235 V.DC
2	6SK7	0V.	0V.	0V.	235 V.DC	0V.	90 V.DC	6.7 V.AC	87 V.DC
3	6SQ7	0V.	0V.	0V.	235 V.DC	±4 V.DC	0V.	6.7 V.AC	0V.
4	6SJ7	0V.	0V.	.05 V.DC	155 V.DC	.05 V.DC	209 V.DC	6.7 V.AC	90 V.DC
5	6SJ7	0V.	0V.	.65 V.DC	0V.	.65 V.DC	119 V.DC	6.7 V.AC	50 V.DC
6	6K6GT	0V.	0V.	245 V.DC	187 V.DC	0V.	0V.	6.7 V.AC	15 V.DC
7	6K6GT	0V.	0V.	245 V.DC	187 V.DC	0V.	0V.	6.7 V.AC	15 V.DC
8	6X5GT	0V.	0V.	240 V.AC	0V.	240 V.AC	0V.	6.7 V.AC	275 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SA7	0 Ω	0 Ω	45 KΩ	95 KΩ	20 KΩ	.5 Ω	.2 Ω	2.5 MEGΩ
2	6SK7	0 Ω	0 Ω	0 Ω	2.5 MEGΩ	0 Ω	55 KΩ	.2 Ω	45 KΩ
3	6SQ7	0 Ω	0 Ω	0 Ω	2.5 MEGΩ	410 KΩ	0 Ω	.2 Ω	0 Ω
4	6SJ7	0 Ω	0 Ω	87 Ω	10 MEGΩ	87 Ω	1.5 MEGΩ	.2 Ω	265 KΩ
5	6SJ7	0 Ω	0 Ω	1000 Ω	95 KΩ	1000 Ω	1.5 MEGΩ	.2 Ω	265 KΩ
6	6K6GT	0 Ω	0 Ω	45 KΩ	45 KΩ	400 KΩ	INF.	.2 Ω	375 Ω
7	6K6GT	0 Ω	0 Ω	45 KΩ	45 KΩ	380 KΩ	INF.	.2 Ω	375 Ω
8	6X5GT	0 Ω	0 Ω	132 Ω	INF.	142 Ω	INF.	.2 Ω	45 KΩ

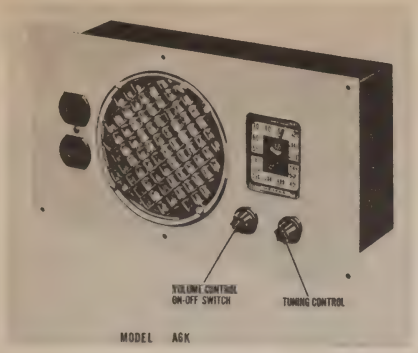
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

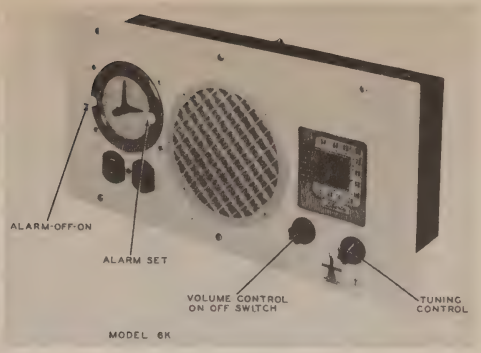
4-710-17

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

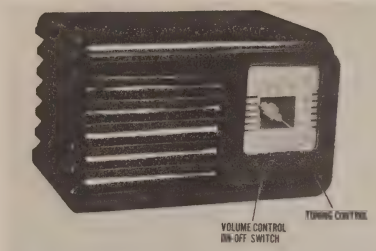
1. **DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.**
2. **Socket connections are shown as bottom views.**
3. **Measured values are from socket pin to common negative.**
4. **Line voltage maintained at 117 volts for voltage readings.**
5. **Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.**
6. **Volume control at maximum, no signal applied for voltage measurements.**



MODEL A6K



MODEL 6K



MODEL A6P

TRADE NAME	Liberty, Models A6K, A6P, 6K
MANUFACTURER	American Communications Co., 306 Broadway, New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver
TUBES (SIX)	Types, 14A7 or 7C7 RF Amp., 14Q7 Converter, 12SK7 or 7C7 IF Amp., 14B6 Det.-AVC-AF, 35L6GT or 50A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC (Clock Models-AC Only) RATING .260 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1750KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 6 (grid) 14Q7. Low side to B-.	455KC	Tuning slugs out completely	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001 MFD. to reduce hum modulation.
2	200MMFD	High side to ext. ant. lead. Low side to B-.	1750KC	"	"	A5,A6	Adjust for maximum output.
3	200MMFD	"	1400KC	Tune for maximum output.	"	Coil 40	Loosen screws on bracket of ant. coil (40). Adjust position of coil for maximum output.
4	200MMFD	"	600KC	"	"	A7	Rock tuning cap and adjust for maximum output. Repeat Steps 2, 3 and 4 until no further increase in output is obtained

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PARTS LIST AND DESCRIPTIONS

LIBERTY MODELS
AGK, ASP, GK

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: AMER. COMM. PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1A	RF Amp.	14A7	14A7	8V	
B	" "	7C7	7C7	8V	
2	Converter	14Q7	14Q7	8AL	
3A	IF Amp.	12SK7	12SK7	8N	
B	" "	7C7	7C7	8V	
4	Det.-AVC-AF	14B6	14B6	8W	
5A	Power Output	35L6GT	35L6GT	7AC	
B	" "	50A5	50A5	6AA	
6	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AMER. COMM. PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: SOLAR PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	30	150		PRSA150-30-20	EZ3215C	3NS33	DSB-302	TA-303	Filter - Red
B	20	150							" - Blue
C	20	25		PRS25-25					Cath. Bypass - Green
8	20	150		PRS150-20	BR2015	TC45	M-20-150	UT-201	Filter
9	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
10	.02	400		484-02	DT4S2	TP423	S-4-02	TC-12	Output Plate Bypass
11	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
12	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	" "
13	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
14	.1	300		484-.1	DT4P1	TP428	S-4-1	TC-1	Line Isolation
15	120	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Audio Plate Bypass
16	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Diode Filter
17	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	" "
18	47	500		1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
19	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	RF Coupling
20	500	500		1468-0005	5W5T5	MC245	MO.5-35	1FM-35	Ext. Ant. Coupling
21	500	500		1468-0005	5W5T5	MC245	MO.5-35	1FM-35	Fixed Trimmer

CONTROLS

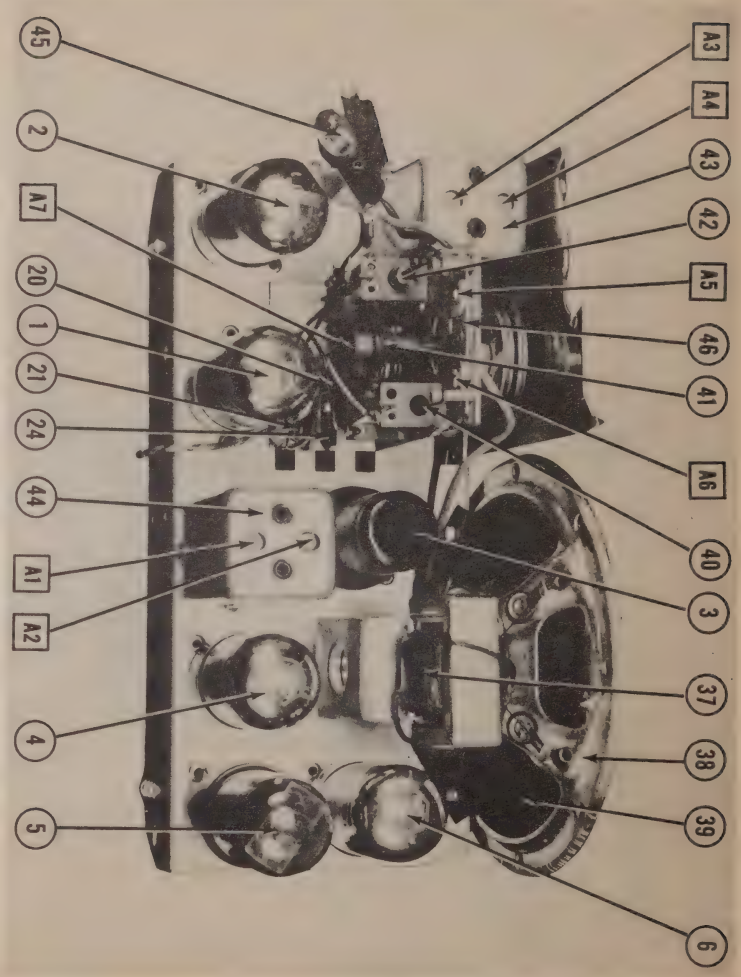
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AMER. COMM. PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	INSTALLATION NOTES
22A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 22A per instructions

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AMER. COMM. PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
23	250KΩ	½		BTS-270K	Red-Grn.-Yl. Line Isolation
24	22KΩ	½		BTS-22K	Red-Red-Or. Antenna Loading-See Note 1
25	250KΩ	½		BTS-270K	Red-Grn.-Yl. RF Grid
26	2200Ω	½		BTS-2200	Red-Red-Red RF Plate Load-See Note 2
27	250KΩ	½		BTS-270K	Red-Grn.-Yl. Converter Grid
28	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Grid
29	1.5 Meg.	½		BTS-1.5 Meg.	Br.-Grn.-Grn. AVC Network-See Note 3
30	43KΩ	½		BTS-47K	Yl.-Or.-Or. Diode RF Filter
31	6.8 Meg.	½		BTS-6.8 Meg.	Blue-Gray-Grn. AF Grid-See Note 4
32	250KΩ	½		BTS-270K	Red-Grn.-Yl. AF Plate Load
33	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
34	150Ω	1		BW-1-150	Br.-Grn.-Yl. Output Cathode
35	680Ω	1		BTA-680	Blue-Gray-Br. Filter - See Note 5
36	300Ω	1		BW-1-330	Or.-Blk.-Br. Filter - See Note 5

Note 1 - Some models use 100KΩ in this application. IRC replacement BTS-100K.
Note 2 - Some models use 3000Ω in this application. IRC replacement BTS-3300.
Note 3 - Some models use 2 Meg. in this application. IRC replacement BTS-2.2 Meg.
Note 4 - Some models use 10 Meg. in this application. IRC replacement BTS-10 Meg.
Note 5 - Not used in models with electro-dynamic speaker.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		AMER. COMM. PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
37	1500Ω	3.5Ω	170Ω	.6Ω		A-3865	T22S45		

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			AMER. COMM. PART No.	JENSEN PART No.		
38	FIELD	VC IMP.		ST-107		
	PM	3.5Ω		Mod. P5-V		
39	CONE DIA.	VC DIA.	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
	4-3/4"	1/2"				

R F COILS

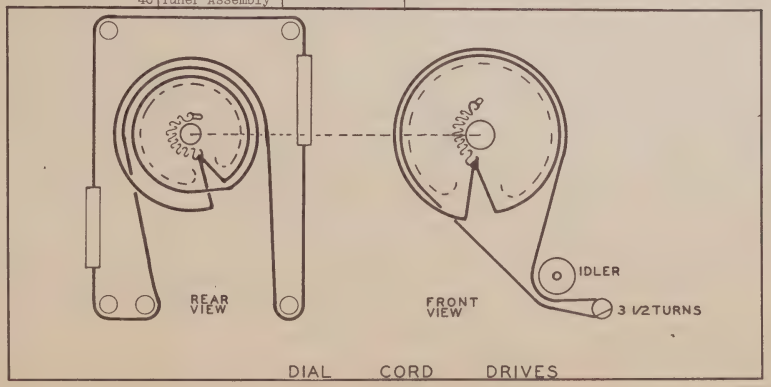
ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	AMER. COMM. PART No.	MEISSNER PART No.	
40	Ant. Coil		11.5Ω			Items 40 & 41 are ganged, slug tuned, and are part of tuning assembly.
41	Osc. Shunt Coil		8Ω			
42	Osc. Coil		10Ω			
43	Input IF	23Ω	23Ω		16-6658	
44	Output IF	23Ω	23Ω		16-6660	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					AMER. COMM. PART No.		
45	Bayonet	6-8	0.15	Brown			Type 47

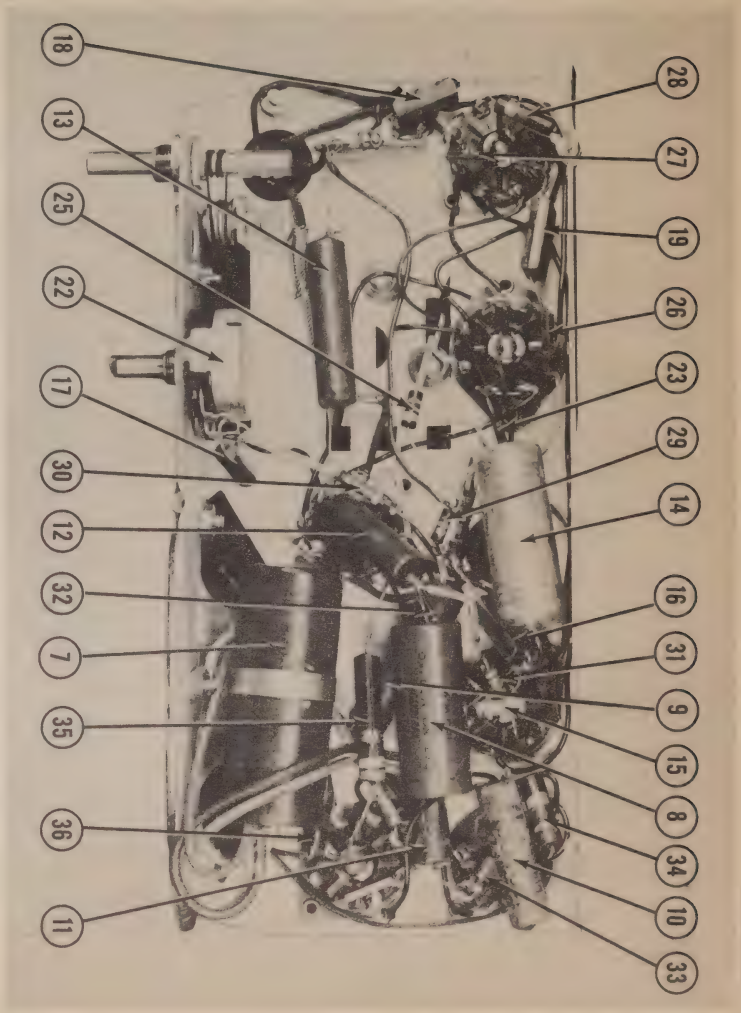
MISCELLANEOUS

ITEM No.	PART NAME	AMER. COMM. PART No.	NOTES
46	Tuner Assembly		



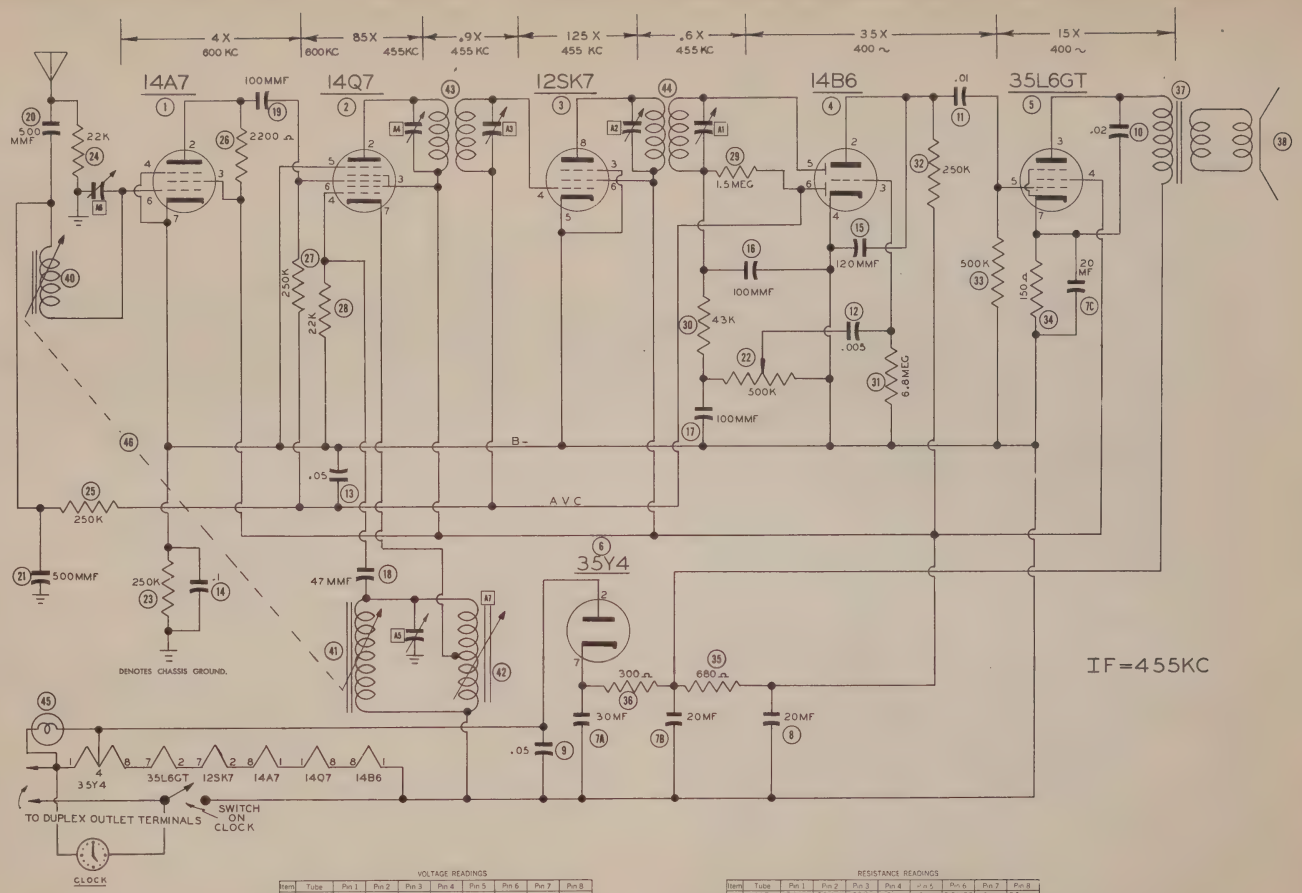
DIAL CORD DRIVES

CHASSIS—BOTTOM VIEW



LIBERTY MODELS
AOK, AOP, OK

LIBERTY MODELS
AOK, AOP, OK



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	25V AC	67V DC	83V DC	0V	0V	-58V DC	0V	38V AC
2	14Q7	25V AC	83V DC	83V DC	-5.9V DC	0V	-4.4V DC	0V	2V AC
3	12SK7	0V	38V AC	0V	-.28V DC	0V	83V DC	49V AC	83V DC
4	14B6	0V	62V DC	-.6V DC	0V	-58V DC	-.9V DC	0V	12V AC
5	35L6GT	0V	49V AC	100V DC	83V DC	0V	0V	86V AC	5.2V D.C.
6	35Y4	117V AC	112V AC	0V	112V AC	0V	106V DC	127V DC	86V AC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	24Ω	50KΩ	50KΩ	0Ω	0Ω	2.2MEG	0Ω	33Ω
2	14Q7	24Ω	50KΩ	50KΩ	22KΩ	0Ω	2.2MEG	.8Ω	12Ω
3	12SK7	280KΩ	33Ω	0Ω	1.9MEG	0Ω	50KΩ	43Ω	50KΩ
4	14B6	0Ω	300KΩ	8 MEGΩ	0Ω	1.9MEG	540KΩ	0Ω	12Ω
5	35L6GT	0Ω	43Ω	50KΩ	50KΩ	480KΩ	INF.	65Ω	40Ω
6	35Y4	100Ω	96Ω	0Ω	96Ω	INF.	50KΩ	50KΩ	65Ω

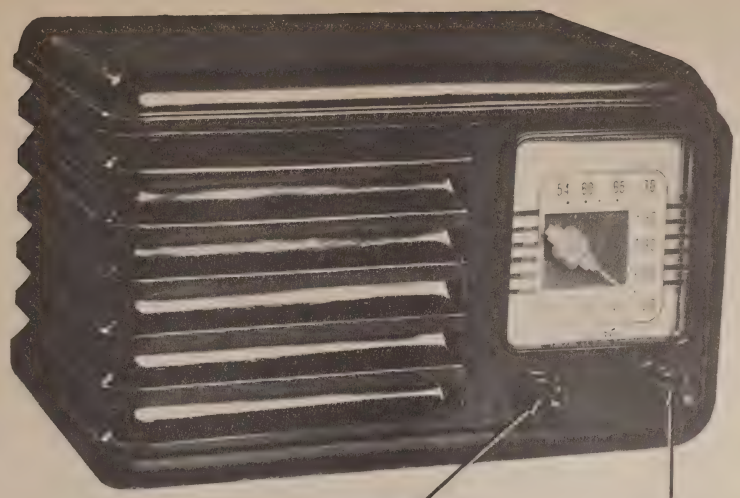
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-18

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. **DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.**
2. **Socket connections are shown as bottom views.**
3. **Measured values are from socket pin to common negative.**
4. **Line voltage maintained at 117 volts for voltage readings.**
5. **Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.**
6. **Volume control at maximum, no signal applied for voltage measurements.**



LIBERTY
MODEL 507 A

LIBERTY
MODEL 507 A

LIBERTY MODEL 507A

TRADE NAME	Liberty, Model 507A
MANUFACTURER	American Communications Corp., 306 Broadway, New York, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver
TUBES (FIVE)	Types, 14Q7 Converter, 14A7 IF Amp., 14B6 Det.-AVC-AF, 50A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	540-1750KC RATING .220 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum position output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 6 (grid) 14Q7. Low side to chassis.	455KC	Tuning slugs out completely	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	200MMFD	High side to ext. ant. lead. Low side to chassis.	1750KC	"	"	A5,A6	Adjust for maximum output.
3	200MMFD	"	1400KC	Tune for maximum output.	"	Coil 33	Loosen screws on bracket of ant. coil (33). Adjust position of coil for maximum output. Tighten bracket screws.
4	200MMFD	"	600KC	"	"	A7	Rock tuning slugs and adjust for maximum output. Repeat Steps 2, 3 and 4 until no further increase in output is obtained.

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PARTS LIST AND DESCRIPTIONS

LIBERTY MODEL 507A

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: AMERICAN COMMUNICATIONS PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	14Q7	14Q7	8AL	
2	IF Amp.	14A7	14A7	8V	
3	Det.-AVC-AF	14B6	14B6	8W	
4	Power Output	50A5	50A5	6AA	
5	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AMER. COMM. PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	30	150		PRSA150-30-20	EZ3215C	3N533	DSB-302	TA-303	Filter-Red
B	20	150							" -Blue
C	20	25		PRS25-25					Cath. Bypass-Green
7	20	150		PRS150-20	BR2015	TC45	M-20-150	UT-201	Filter
8	.02	400		484-02	DT4S2	TP423	S-4-02	TC-12	Output Plate Bypass
9	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
10	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	" "
11	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
12	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
13	200	500		1468-0002	5W5T2	MC237	MO.5-32	1FM-32	Audio Plate Bypass
14	150	500		1468-00015	5W5T15	MC236	MO.5-315	1FM-315	Diode Filter
15	68	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Osc. Grid Capacitor
16	330	500		1468-0003	5W5T3	MC241	MO.5-33	1FM-33	Fixed Trimmer
17	4700	500		1467-005	1W5D5	MC465	MW.5-25	1FM-25	Ext. Ant. Coupling

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AMER. COMM. PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 18A per instructions
C	Switch			M26	41	SW-A	" " " " "

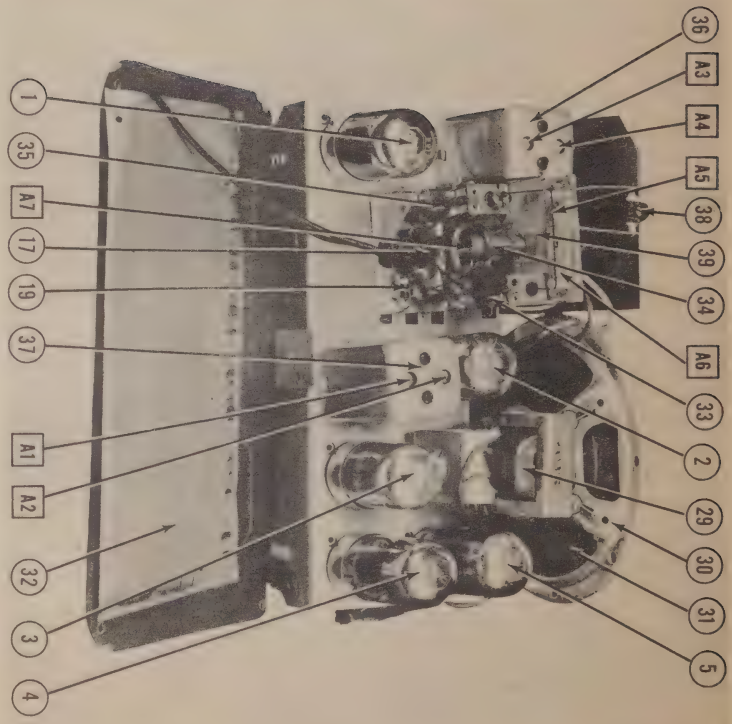
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AMER. COMM. PART No.	IRC PART No.	IDENTIFICATION CODES
19	25KΩ	½		BTS-27K	Red-Grn.-Or. Antenna Loading
20	25KΩ	½		BTS-27K	Red-Grn.-Or. Oscillator Grid
21	250KΩ	½		BTS-270K	Red-Grn.-Yl. Converter Grid
22	2.5 Meg.	½		BTS-2.7 Meg.	Red-Grn.-Grn. AVC Network
23	15 Meg.	½		BTS-15 Meg.	Br.-Grn.-Blue AF Grid
24	250KΩ	½		BTS-270K	Red-Grn.-Yl. AF Plate Load
25	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
26	150Ω	1		BW-1-150	Br.-Grn.-Br. Output Cathode
27	470Ω	1		BTA-470	Yl.-Vi.-Br. Filter
28	750Ω	2		BT-2-820	Vi.-Grn.-Br. Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: AMER. COMM. PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
29	2000Ω	4.0Ω	180Ω	.6Ω		A-3876	T22S45		

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA AMER. COMM. PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-107		
30	PM	4.0Ω		Mod. P5-V		
	CONE DIA.	VC DIA.				
31	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

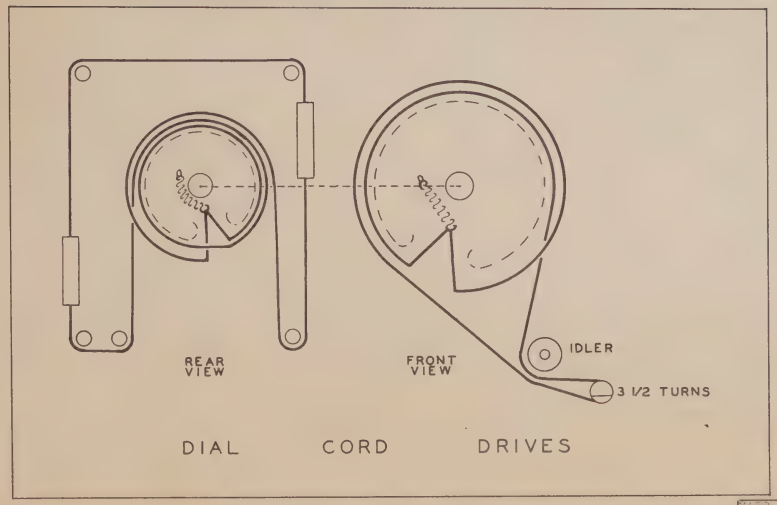
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA AMER. COMM. PART No.	MEISSNER PART No.
32	Ant. Plate				
33	Ant. Coil		11.5Ω		
34	Osc. Shunt Coil		8Ω		
35	Osc. Coil		10Ω		
36	Input IF	23Ω	23Ω		16-6658
37	Output IF	23Ω	23Ω		16-6660

DIAL LIGHT

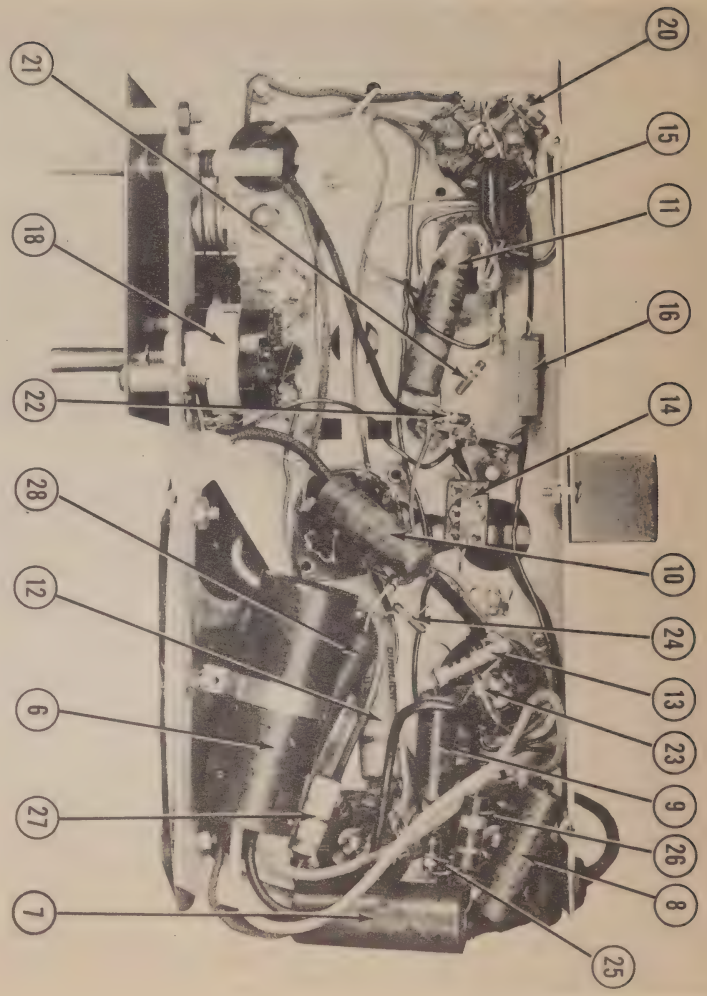
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA AMER. COMM. PART No.		INSTALLATION NOTES
38	Bayonet	6-8	0.15	Brown			Type 47

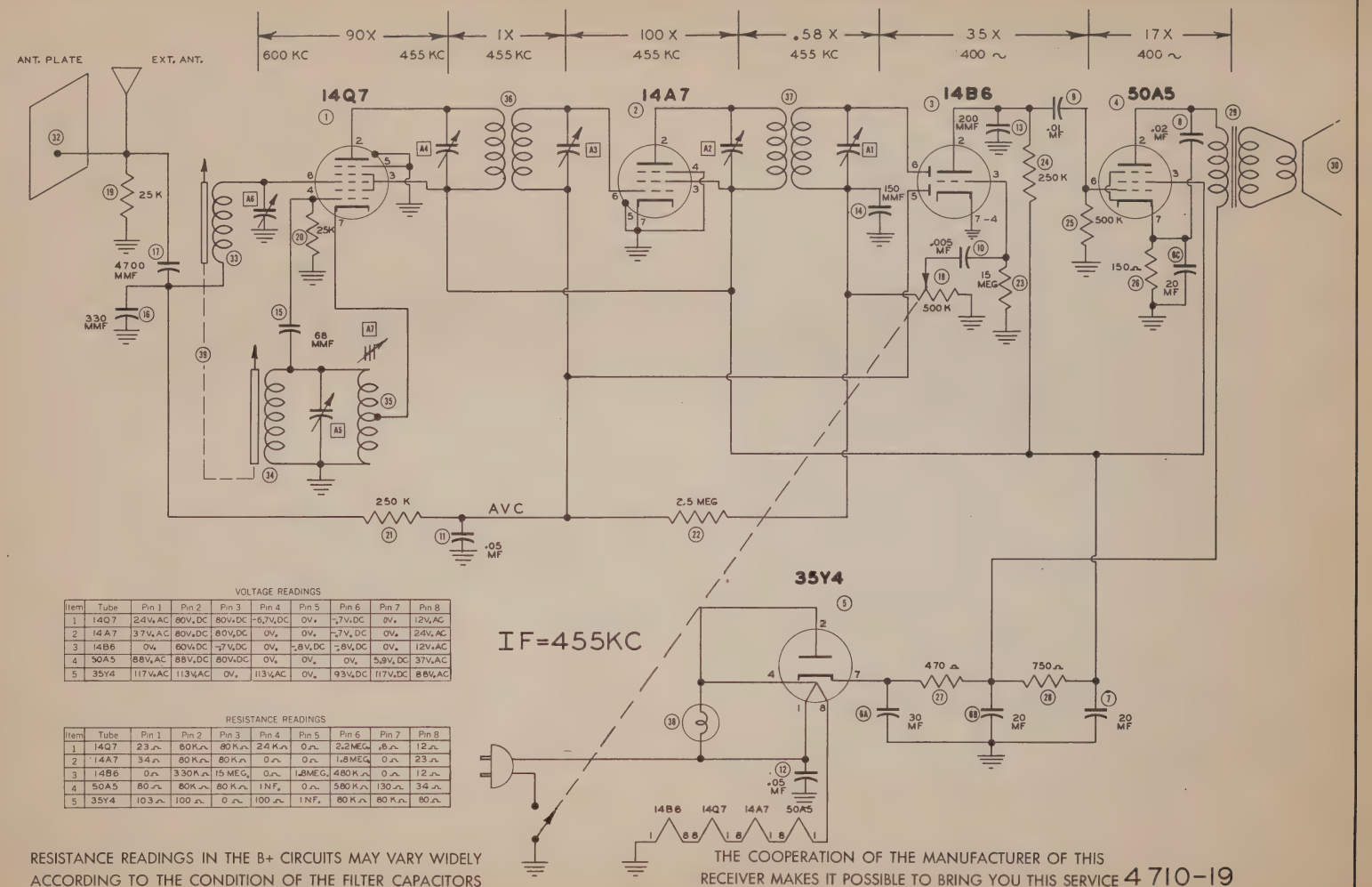
MISCELLANEOUS

ITEM No.	PART NAME	AMER. COMM. PART No.	NOTES
39	Tuner Assembly		



CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14Q7	24V. AC	80V. DC	80V. DC	-6.7V. DC	0V.	-.7V. DC	0V.	12V. AC
2	14A7	37V. AC	80V. DC	80V. DC	0V.	0V.	-.7V. DC	0V.	24V. AC
3	14B6	0V.	60V. DC	-7V. DC	0V.	-8V. DC	-8V. DC	0V.	12V. AC
4	50A5	88V. AC	88V. DC	80V. DC	0V.	0V.	0V.	5.8V. DC	37V. AC
5	35Y4	117V. AC	113V. AC	0V.	113V. AC	0V.	93V. DC	117V. DC	88V. AC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14Q7	23Ω	80KΩ	80KΩ	24KΩ	0Ω	2.2MEG.	.8Ω	12Ω
2	14A7	34Ω	80KΩ	80KΩ	0Ω	0Ω	1.8MEG.	0Ω	23Ω
3	14B6	0Ω	330KΩ	15 MEG.	0Ω	1.8MEG.	480KΩ	0Ω	12Ω
4	50A5	80Ω	80KΩ	80KΩ	INF.	0Ω	580KΩ	130Ω	34Ω
5	35Y4	103Ω	100Ω	0Ω	100Ω	INF.	80KΩ	80KΩ	80Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

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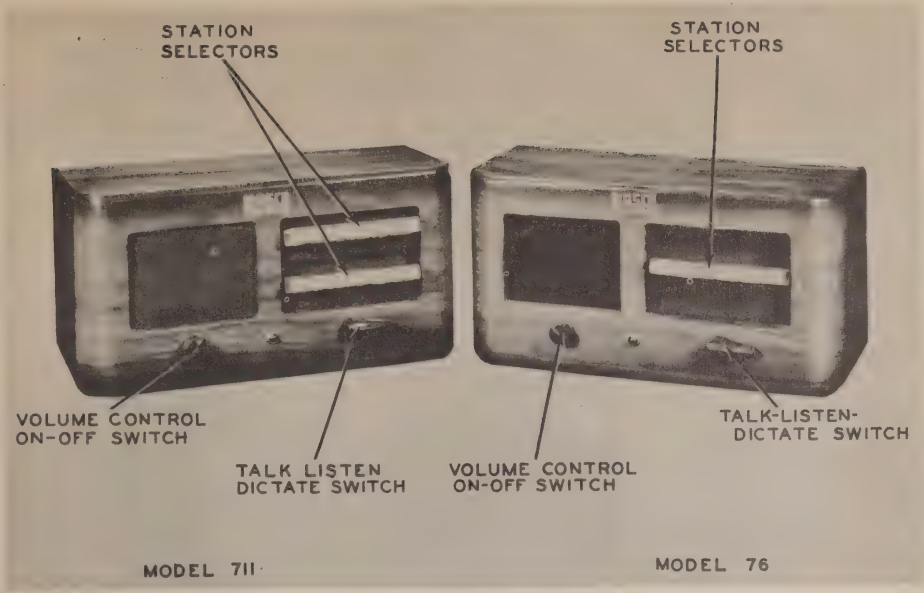
The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



TRADE NAME	Masco, Model 76 (Up to 5 Sub-Stations), 711 (Up to 11 Sub-Stations)
MANUFACTURER	Mark Simpson Co., Inc., 32-28 49th St., Long Island City 3, N.Y.
TYPE SET	AC-DC Operated Inter-Com (One Master Station & Various Numbers of Sub-Stations)
TUBES (THREE)	Types, 14F7 AF Amp., 50L6GT Power Output, 35Y4 Rectifier
POWER SUPPLY	110-120 Volts AC-DC RATING .240 Amp. @ 117 Volts AC

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14F7	13V.AC	1V.DC	47V.DC	0V.	0V.	32V.DC	.7 V.DC	0V.
2	50L6GT	0V.	66V.AC	123V.DC	113V.DC	0V.	0V.	13V.AC	6.9V.DC
3	35Y4	117V.AC	113V.AC	0V.	113V.AC	128V.DC	0V.	128V.DC	85V. AC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14F7	12 Ω	4.5KΩ	250KΩ	100KΩ	750Ω	250KΩ	1.9KΩ	0Ω
2	50L6 GT	0Ω	50Ω	50KΩ	50KΩ	560KΩ	0Ω	12 Ω	130 Ω
3	35Y4	183Ω	180Ω	INF.	180Ω	50 KΩ	INF.	50 KΩ	160Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

MASCO MODELS 76, 711

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: MASCO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	AF Amp.	14F7	14F7	8AC	
2	Power Output	50L6GT	50L6GT	7AC	
3	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MASCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
4A	40	150		PRSA150-40-	BRD4415	2N511	M-2x40-150	TA-440	Filter - Red
B	40	150		40				" "	" "
5	10	25		PRS50-10	BR10S	TC32	M-10-50	TA-510	Cath. Bypass
6	10	25		PRS50-10	BR10S	TC32	M-10-50	TA-510	" "
7	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
8	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	" "
9	.1	600		684-.1	DT6P1	TP418	S-6-1	TC-1	Plate Decoupling
10	.1	600		684-.1	DT6P1	TP418	S-6-1	TC-1	Line Isolation
11	.5	400		484-.5	DT4P5	TP431	S-4-5	TC-5	Earphone Coupling †

† Used in models having earphone jacks.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASCO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
12A	500KΩ			MR48	D13-133	M-60-2	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 12A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

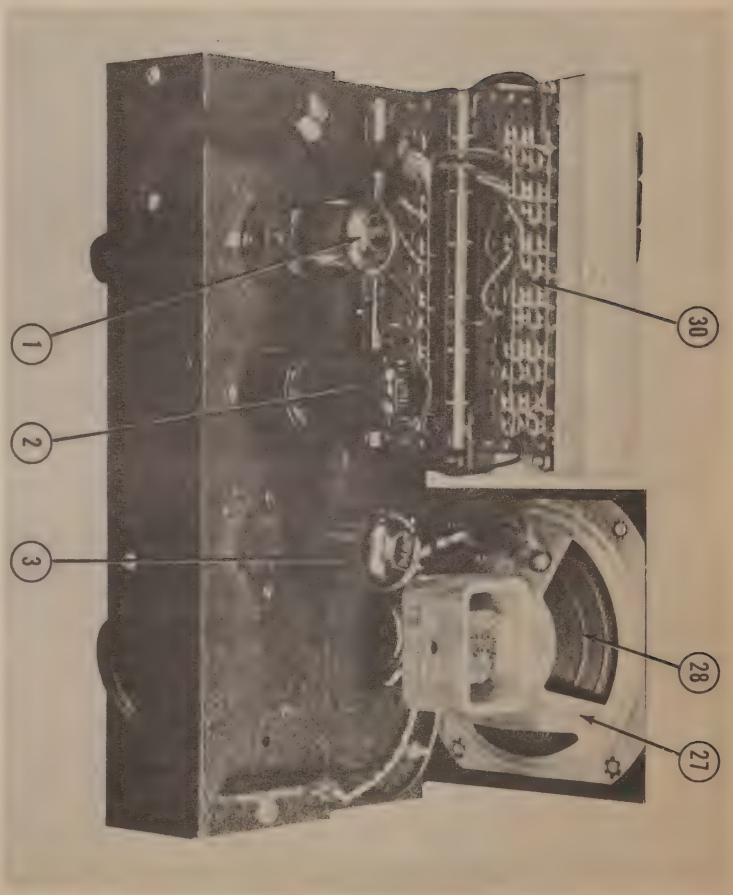
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASCO PART No.	IRC PART No.	IDENTIFICATION CODES
13	2KΩ	1		BTA-2200	Red-Blk.-Red 1st AF Cathode
14	100KΩ	½		BTS-100K	Br.-Blk.-Yl. 1st AF Plate Load
15	100KΩ	½		BTS-100K	Br.-Blk.-Yl. 2nd AF Plate Load
16	100KΩ	½		BTS-100K	Br.-Blk.-Yl. 2nd AF Grid-See Note 1
17	5KΩ	½		BTS-4700	Grn.-Blk.-Red 2nd AF Cathode
18	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Decoupling
19	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
20	2KΩ	1		BTA-2200	Red-Blk.-Red Filter
21	150Ω	½		BW-½-150	Br.-Grn.-Br. Pilot Light Shunt-See Note 2
22	12-20Ω	½		ABA-20	Earphone Shunt-See Note 3
23	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Transformer Shunt
24	125Ω	10		ABA-150	Line Dropping - See Note 4

Note 1 - Some models use 500KΩ in this application. IRC replacement BTS-470K.
Note 2 - Some models use 40Ω in this application. IRC replacement BW-½-39.
Note 3 - On IRC replacement set slider at proper value.
Note 4 - On IRC replacement set slider at 125Ω from one end.

TRANSFORMER (INPUT)

ITEM No.	RATING: TURNS RATIO PRI. TO SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: MASCO PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
25	1 to 10	.5Ω	32ΩΩ	13-IN-20C		T20A00†		†Drill one new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		MASCO PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
26A	1400Ω	10.8Ω	145Ω	.5Ω	13-0-20C		T22S62*		Used in Model 76
B	1800Ω	13.8Ω	145Ω	.5Ω	13-0-20C		T22S62*		*Drill one new mounting hole. Used in Model 711

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			MASCO PART No.	JENSEN PART No.		
27A	FIELD	VC IMP.				
	PM	10.5Ω	15-SP-20			Used in Model 76
28A	CONE DIA. 4"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
27B	FIELD	VC IMP.				
	PM	13.8Ω	13-SP-20			Used in Model 711
28B	CONE DIA. 4"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

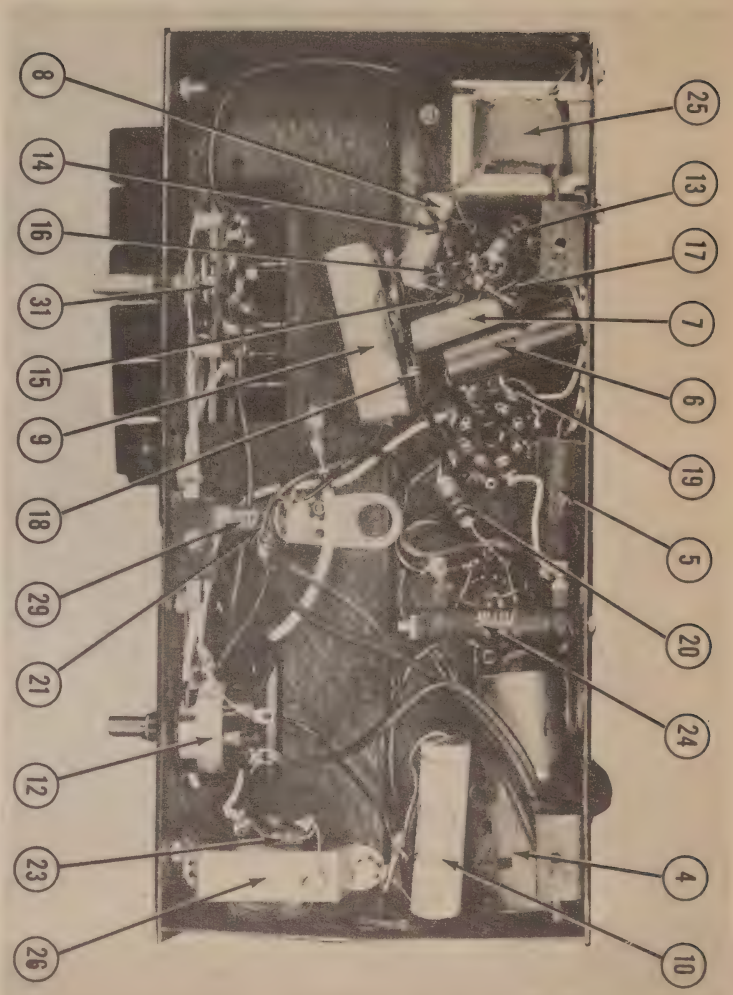
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					MASCO PART No.		
29	Screw	6-8	0.15	Brown			Type 40

MISCELLANEOUS

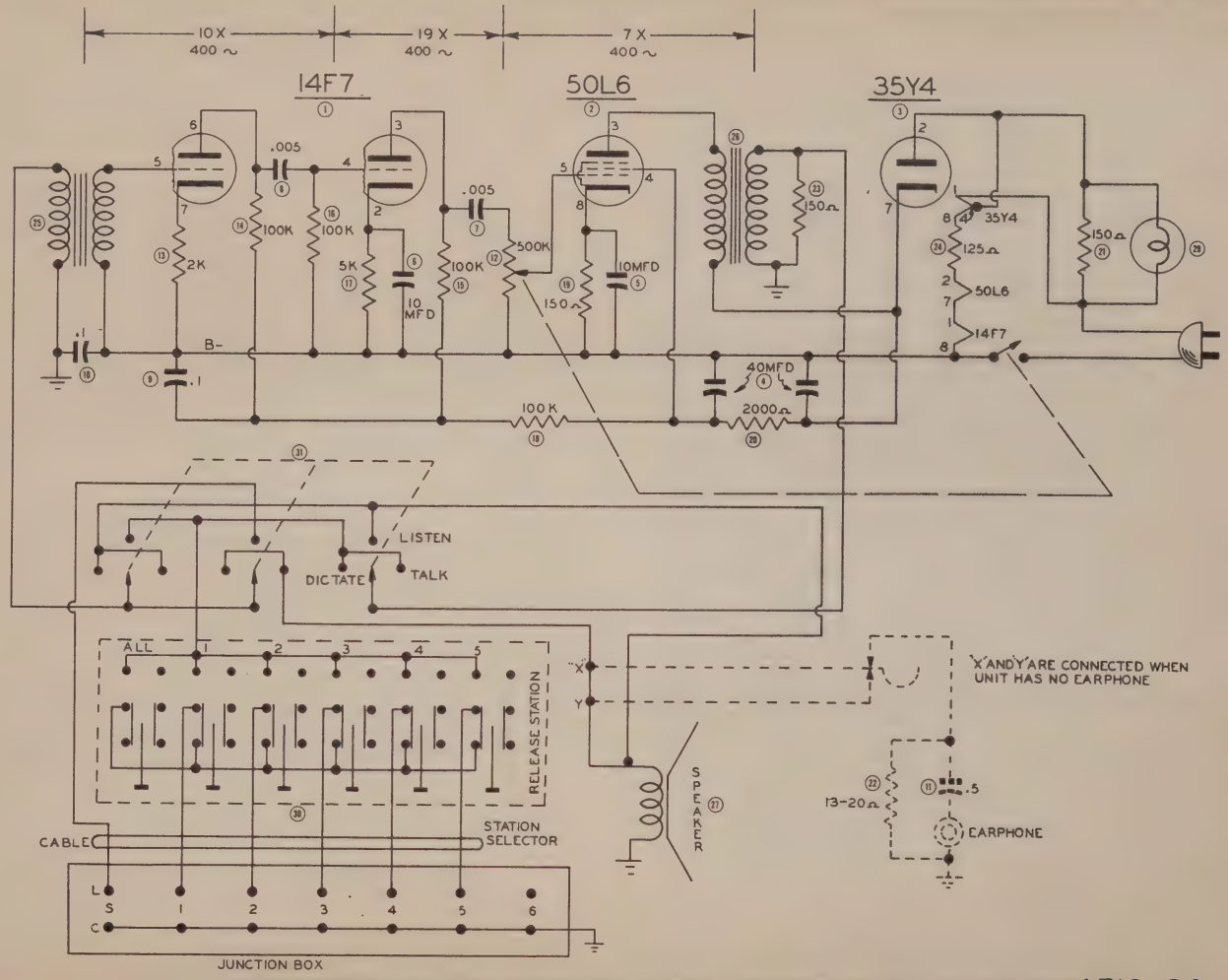
ITEM No.	PART NAME	MASCO PART No.	NOTES
30	Switch		Station Selector
31	"		Function

CHASSIS—BOTTOM VIEW

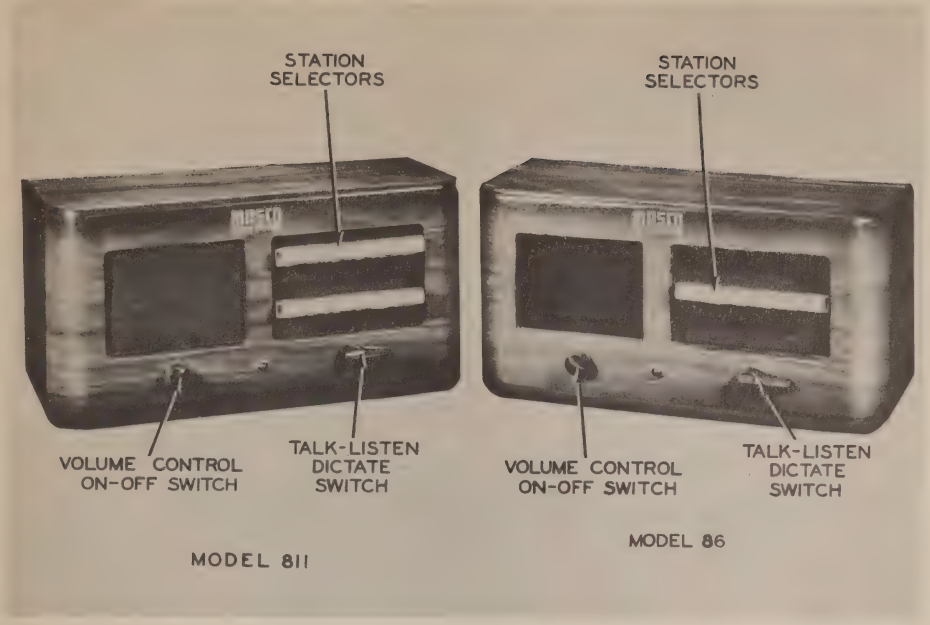


MASCO MODELS 76, 711

MASCO MODELS 76, 711



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 4710-20



TRADE NAME	Masco, Models 86 (Up to 5 Master Stations), 811 (Up to 11 Master Stations).
MANUFACTURER	Mark Simpson Co., Inc., 32-28 49th St., Long Island City, 3, N.Y.
TYPE SET	AC-DC Operated Inter-Com. (All Stations Master Stations)
TUBES (THREE)	Types, 14F7 AF Amp., 50L6GT Power Output, 35Y4 Rectifier.
POWER SUPPLY	105-120 Volts AC-DC RATING .240 Amp. @ 117 Volts AC

"LISTEN-TALK-DICTATE" SWITCH IN "DICTATE" POSITION

PIN	14F7	
NO.	VOLT.	RES.
1	13V.AC	12 Ω
2	1V.DC	4.5KΩ
3	47V.DC	250 KΩ
4	0V.	100 KΩ
5	0V.	750 Ω
6	32V.DC	250KΩ
7	7V.DC	1.9KΩ
8	0V.	0 Ω

PIN	50L6 GT	
NO.	VOLT.	RES.
1	0V.	0 Ω
2	66V.AC	50 Ω
3	123V.DC	50K Ω
4	113V.DC	50 K Ω
5	0V.	600 KΩ
6	0V.	0Ω
7	13V.AC	12 Ω
8	6.9V.DC	130Ω

PIN	35Y4	
NO.	VOLT.	RES.
1	117V.AC	183Ω
2	113V.AC	180Ω
3	0V.	INF.
4	113V.AC	180 Ω
5	128V.DC	50 KΩ
6	0V.	INF.
7	128V.DC	50 K Ω
8	85V.AC	160 Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

MASCO MODELS 20, 21

TUBES

ITEM No.	USE	REPLACEMENT DATA: MASCO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	AF Amp.	14F7	14F7	8AC	
2	Power Output	50L6GT	50L6GT	7AC	
3	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MASCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
4A	40	150		PRSA150-40-	BRD4415	2N511	M-2x40-150	TA-440	Filter - Red
B	40	150		40					" - "
5	10	25		PRS50-10	BR105	TC32	M-10-50	TA-510	Cath. Bypass
6	10	25		PRS50-10	BR105	TC32	M-10-50	TA-510	" "
7	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
8	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	" "
9	.1	600		684-.1	DT6P1	TP418	S-6-1	TC-1	Plate Decoupling
10	.1	600		684-.1	DT6P1	TP418	S-6-1	TC-1	Line Isolation
11	.5	400		484-.5	DT4P5	TP431	S-4-5	TC-5	Earphone Coupling †

† Used in models having earphone jacks.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASCO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
12A	25Ω	2		U	W-30	58S-25	Volume Control
B	Switch			6-9	51	Not Req.	Attach to 12A per instruction

RESISTORS

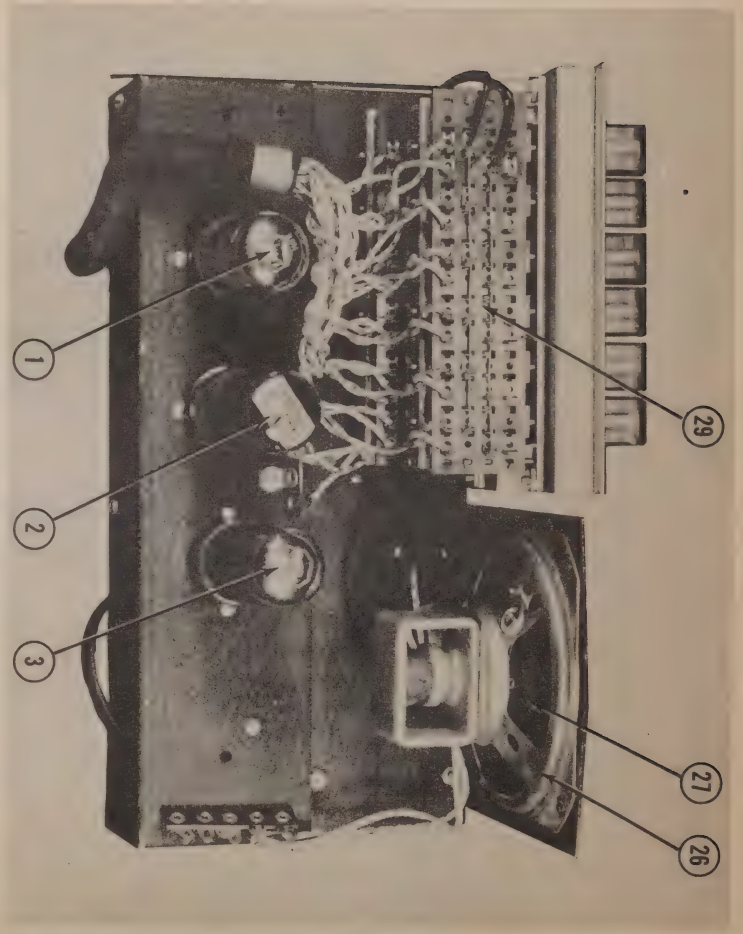
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MASCO PART No.	IRC PART No.	IDENTIFICATION CODES
13	2000Ω	1		BTA-2200	Red-Blk.-Red 1st AF Cathode
14	100KΩ	½		BTS-100K	Br.-Blk.-Yl. 1st AF Plate Load
15	100KΩ	½		BTS-100K	Br.-Blk.-Yl. 2nd AF Plate Load
16	100KΩ	½		BTS-100K	Br.-Blk.-Yl. 2nd AF Grid
17	5000Ω	½		BTS-4700	Grn.-Blk.-Red 2nd AF Cathode
18	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Decoupling
19	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
20	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
21	2000Ω	1		BTA-2200	Red-Blk.-Red Filter
22	125Ω	10		ABA-125	Line Dropping-See Note 1
23	13-20Ω			ABA-20	Earphone Shunt-See Note 2

Note 1-On IRC replacement set slider at 125Ω from one end.
Note 2-On IRC replacement set slider at proper value.

TRANSFORMER (INPUT)

ITEM No.	RATING: TURNS RATIO PRI. TO SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: MASCO PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
24	1 to 10	.5Ω	820Ω	13-IN-20C		T20A00*		*Drill one new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		MASCO PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
25A	1800Ω	13.8Ω	145Ω	.5Ω	13-0-20C		T22S62*		Used in Model 86 *Drill one new mounting hole.
B	1400Ω	10.8Ω	145Ω	.5Ω	13-0-20C		T22S62*		Used in Model 811

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			MASCO PART No.	JENSEN PART No.		
	FIELD	VC IMP.				
26A	PM	13.8Ω	13-SP-20			Used in Model 86
	CONE DIA.	VC DIA.				
27A	4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			
	FIELD	VC IMP.				
26B	PM	10.8Ω	15-SP-20			Used in Model 811
	CONE DIA.	VC DIA.				
27B	4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					MASCO PART No.		
28	Screw	6-8	0.15	Brown			Type 40

MISCELLANEOUS

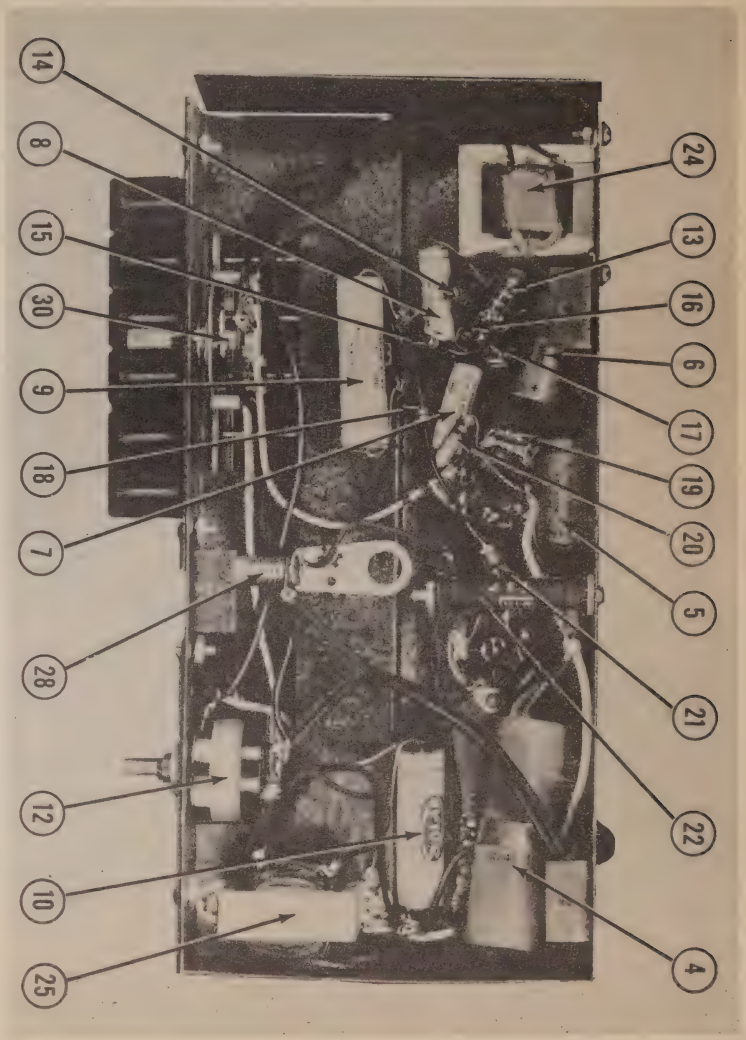
ITEM No.	PART NAME	MASCO PART No.	NOTES
29	Switch		Station Selector
30	"		Function Selector

INSTALLATION INSTRUCTIONS

1. Determine location of each station.
2. Attach junction box of each station to baseboard or desk with four wood screws.
3. Assign an identifying number to each station (from 1-6 for #86) (1-12 for #811).
4. Determine the footage of cable required remembering:
   A. Cable must be run to each junction box.
   B. Cable must consist of as many twisted pairs of wires as there are stations in the system.
   C. Allowance must be made for "bends" and "curves" in cable going around partitions, walls, etc.
5. Assign an identifying number to each pair of wires in cable and also an identifying letter L or C to each wire of the various pairs, i.e. #1 pair would be designated as 1-L and 1-C, #2 pair as 2-L and 2-C etc. (color coded cable greatly simplifies this procedure).
6. To wire in any station the procedure is as follows:
   A. Wire to the "S" terminals the twisted pair whose number is the same as the station number being wired.
   B. Wire to the other terminals all other pairs-the number of each pair must correspond to the number of the terminals to which it is wired.

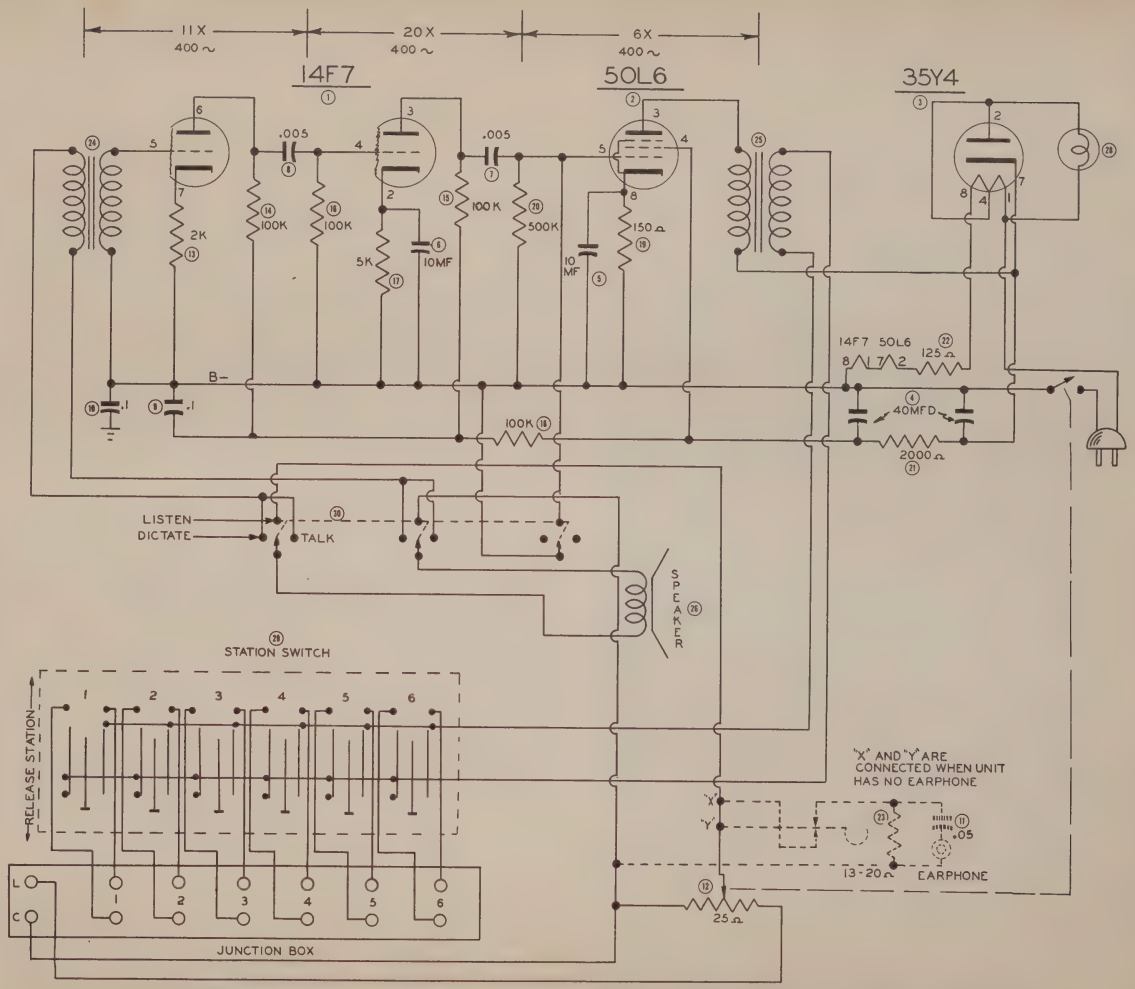
NOTE: All "L" leads must be connected to terminals in the "L" (top) row of the junction box. All "C" leads must be connected to terminals in the "C" (bottom) row of the junction box.

CHASSIS—BOTTOM VIEW

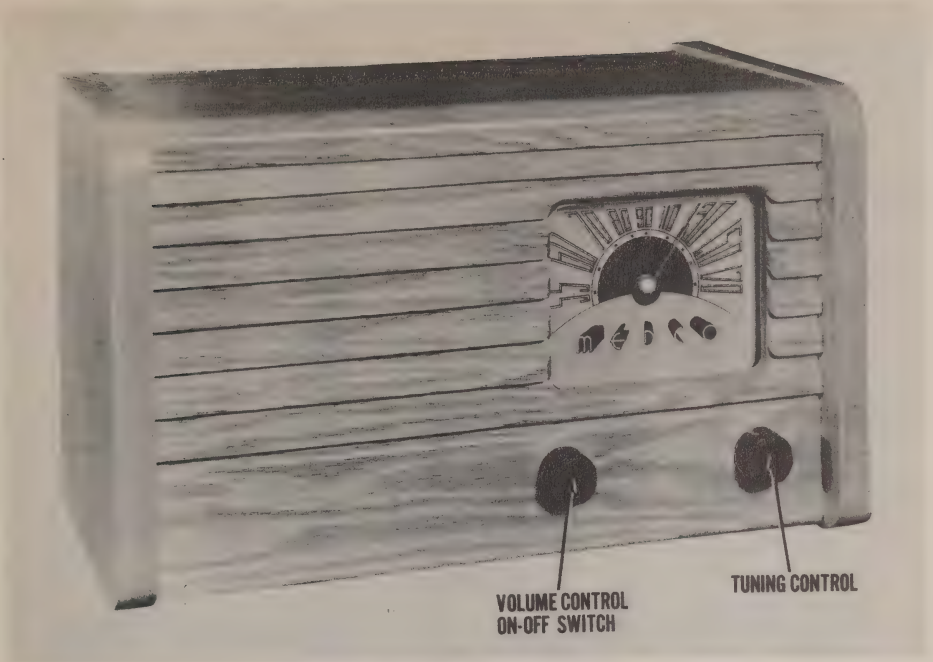


MASCO MODELS 86, 811

MASCO MODELS 86, 811



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE 4710-21



TELESONIC (MEDCO)
MODEL 1635

TELESONIC (MEDCO)
MODEL 1635

MEDCO MODEL 1635

TRADE NAME	Telesonic (Medco), Model 1635
MANUFACTURER	Telesonic Corp. of America, 5 W. 45th St., New York 19, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (SIX)	Types, 14A7 RF Amp., 14Q7 Converter, 14A7 IF Amp., 14B6 Det.-AVC-AF, 50A5 or 35A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	550-1700KC RATING .240 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to chassis.	455KC	Tuning cap. open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2		Loop	1500KC	1500KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3		"	"	Tune for maximum output.	"	A6	"
4		"	600KC	"	"	A7	Rock tuning cap and adjust for maximum output. Repeat Steps 2, 3 and 4 until no further increase in output is obtained.

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PARTS LIST AND DESCRIPTIONS

TELESONIC (MEDCO) MODEL 1635

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.		14A7	8V	
2	Converter		14Q7	8AL	
3	IF Amp.		14A7	8V	
4	Det.-AVC-AF		14B6	8W	
5A	Power Output		50A5	6AA	
B	" "		35A5	6AA	
6	Rectifier		35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	150		PRSA150-40-	BRD4415	2N511	M-2x40-150	TA-440	Filter - Red
B	40	150		40					" - "
8	20	150		PRS150-20	BR2015	TC45	M-20-150	UT-201	" "
9	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Line Filter
10	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
11	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
12	.005	600		684-005	DT6D5	TP408	S-6-005	TC-25	" "
13	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	AVC Filter
14	350	500		1468-00035	5W5T35	MC243	MO.5-335	1FM-34	Audio Plate Bypass
15	25	500		1468-000025	5W5Q25	MC220	MO.5-425	MS-425	Diode Coupling
16	250	500		1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Diode Filter
17	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Audio Grid Filter
18	250	500		1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Fixed Padder
19	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Osc. Grid Capacitor
20	300	500		1468-0003	5W5T3	MC241	MO.5-33	1FM-33	RF Coupling
44	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	Ext. Ant. Isolation*

*Not used in all models.

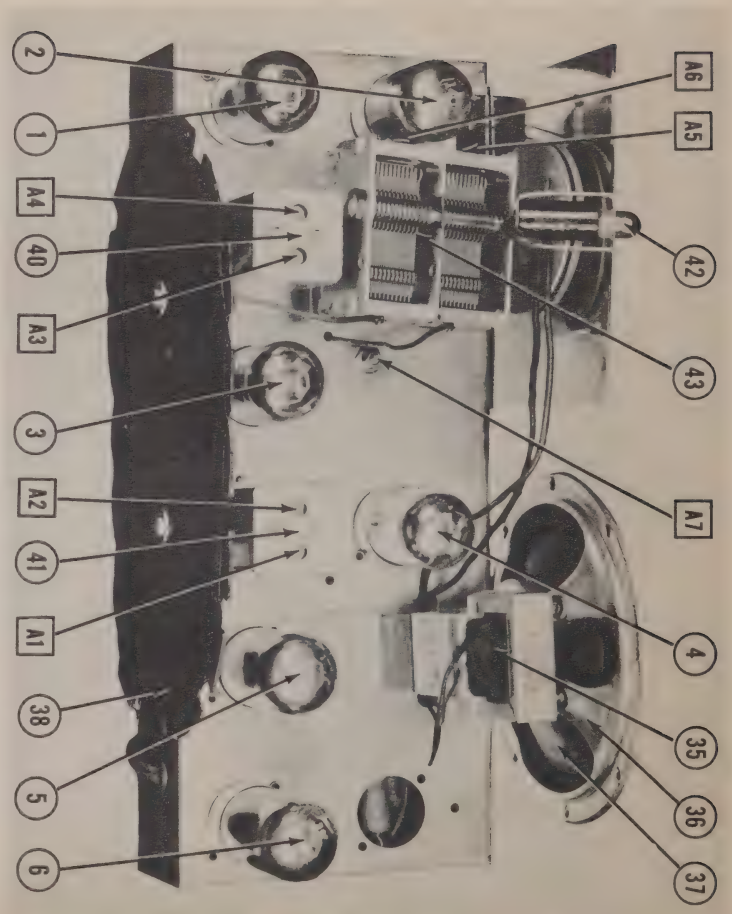
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
21A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 21A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	IRC PART No.	IDENTIFICATION CODES
22	2500Ω	½		BTS-2700	Red-Grn.-Red RF Plate Load
23	50KΩ	½		BTS-47K	Grn.-Blk.-Or. Converter Grid
24	20KΩ	½		BTS-22K	Red-Blk.-Or. Oscillator Grid
25	2 Meg.	½		BTS-2.2 Meg.	Red-Blk.-Grn. AVC Network
26	2 Meg.	½		BTS-2.2 Meg.	Red-Blk.-Grn. AVC Bias Network
27	50KΩ	½		BTS-47K	Grn.-Blk.-Or. Diode RF Filter
28	4 Meg.	½		BTS-3.9 Meg.	Yl.-Blk.-Grn. AF Grid
29	350KΩ	½		BTS-330K	Or.-Grn.-Yl. AF Plate Load
30	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
31	470Ω	10		BT-2-470	Filter
32	51Ω	1		BW-1-47	Grn.-Br.-Blk. Bias Network
33	51Ω	1		BW-1-47	Grn.-Br.-Blk. " "
34	200Ω	1		BW-1-220	Red-Blk.-Br. Pilot Light Shunt

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TELESONIC (MEDCO) PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
35	2000Ω	3.0Ω	140Ω	.45Ω		A-3876‡	T22S45‡		‡Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			TELESONIC (MEDCO) PART No.	JENSEN PART No.		
	FIELD	VC IMP.		ST-105†		†Fabricate new mounting bracket.
36	PM	3.0Ω		Mod. P5-X		
	CONE DIA.	VC DIA.				
37	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

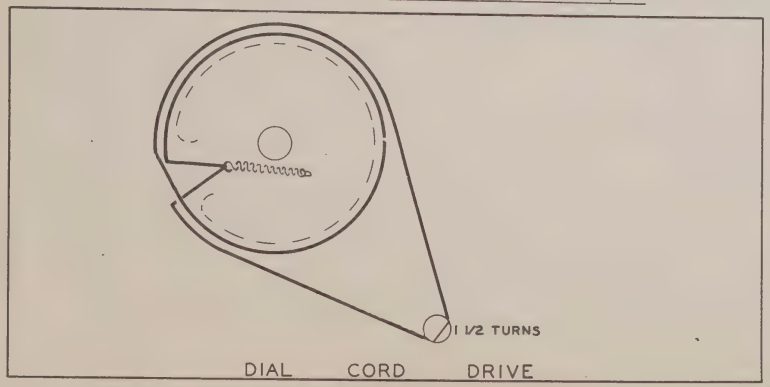
ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PRI.	SEC.	TELESONIC (MEDCO) PART No.	MEISSNER PART No.
38	Loop Ant.		1.2Ω		
39	Osc. Coil		5.5Ω		14-1040
40	Input IF	24Ω	17Ω	S-103	16-6658
41	Output IF	15Ω	15Ω	S-104	16-6660

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					TELESONIC (MEDCO) PART No.		
42	Bayonet	6-8	0.15	Brown			Type 47

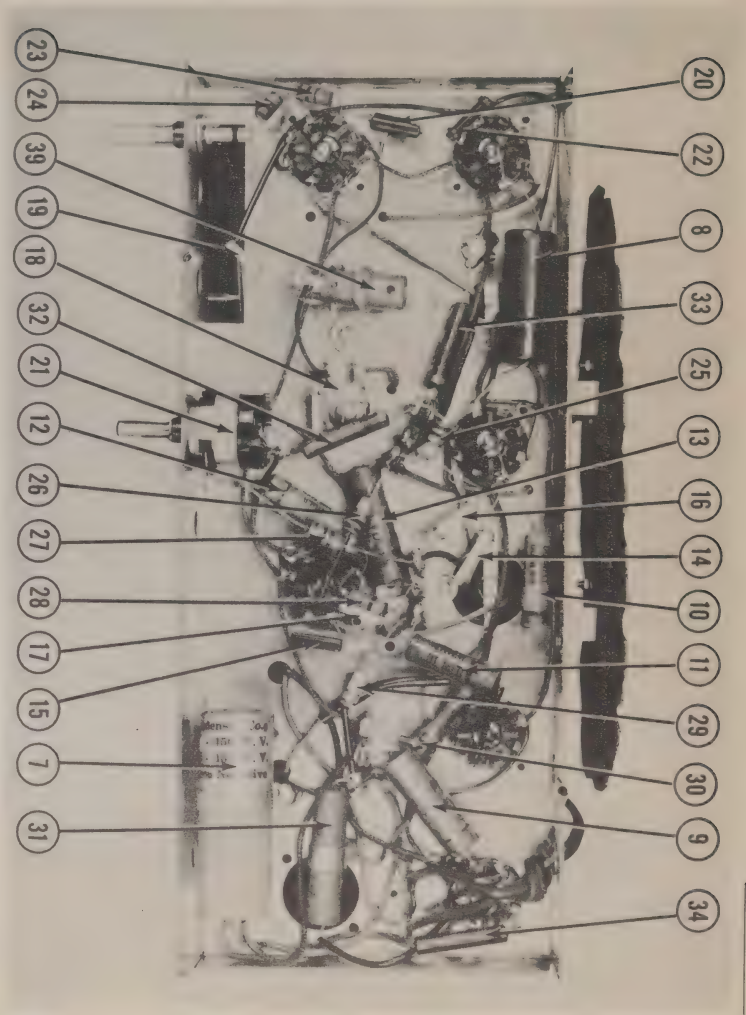
MISCELLANEOUS

ITEM No.	PART NAME	TELESONIC (MEDCO) PART No.	NOTES
43	2 Gang Var. Cap		33-197 MMF (each section)



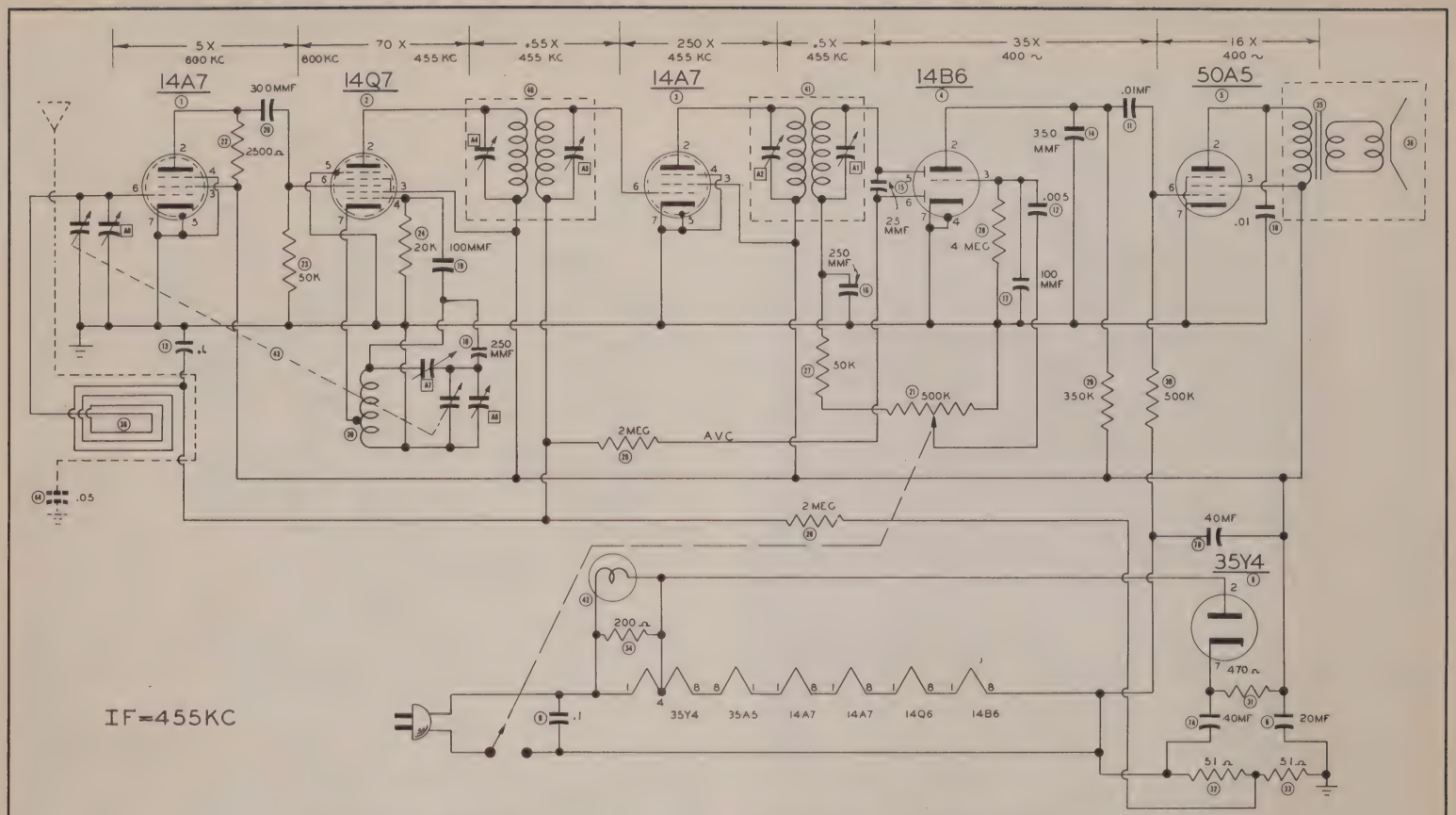
DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



TELESONIC (MEDCO)
MODEL 1635

TELESONIC (MEDCO)
MODEL 1635



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	24V.AC	78V.DC	92V.DC	0V.	0V.	-3.1V.DC	0V.	55V.AC
2	14Q7	12V.AC	92V. DC	92V.DC	7.2VDC	0V.	0V.	0V.	24V.AC
3	14A7	39V.AC	92V.DC	92V.DC	0V.	0V.	-3.5V. DC	0V.	45V.AC
4	14B6	12V.AC	52V.DC	-.57V.DC	0V.	-.5V.DC	-.8V. DC	0V.	-3.8V.DC +1.1VAC
5	50A5	45V.AC	87V.DC	92V.DC	0V.	0V.	12V.DC	0V.	80V.AC
6	35Y4	117VAC	114VAC	0V.	114VAC	0V.	0V.	118VDC	90VAC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

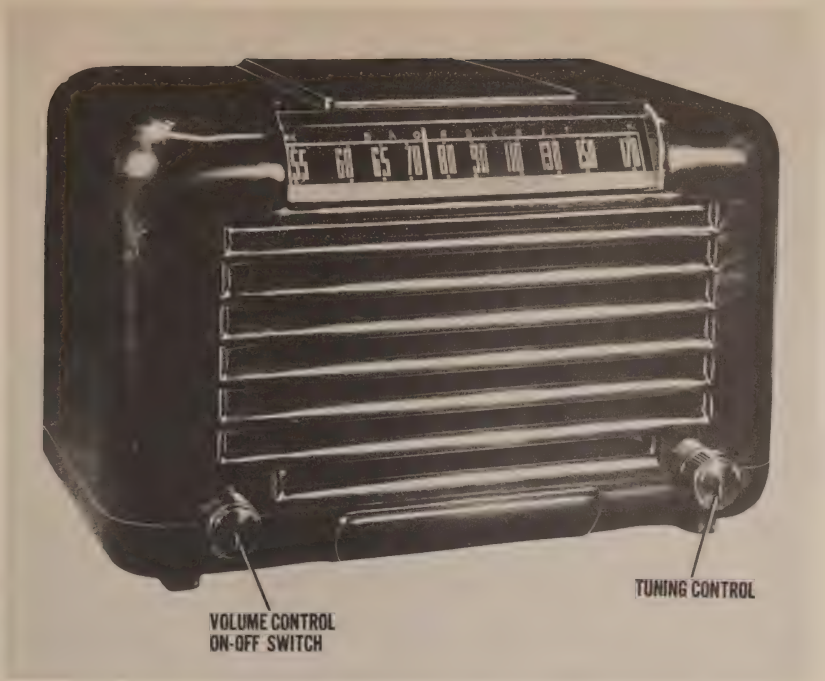
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	115Ω	70 KΩ	70 KΩ	0Ω	0Ω	1.4MEG	0Ω	125Ω
2	14Q7	103Ω	70 KΩ	70 KΩ	20KΩ	0Ω	500KΩ	0Ω	115Ω
3	14A7	95Ω	70 KΩ	70 KΩ	0Ω	0Ω	1.4MEG	0Ω	135Ω
4	14B6	103Ω	400KΩ	4 MEG	0Ω	500 KΩ	3.5MEG	0Ω	92Ω
5	50A5	135Ω	70 KΩ	70KΩ	INF.	INF.	510Ω	0Ω	180Ω
6	35Y4	202Ω	200Ω	INF.	200Ω	INF.	INF.	70 KΩ	180Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-22

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



TELESONIC (MEDCO)
MODEL 1642

TELESONIC (MEDCO)
MODEL 1642

MEDCO MODEL 1642

TRADE NAME	Telesonic (Medco), Model 1642
MANUFACTURER	Telesonic Corp. of America, 5 W. 45th St., New York 19, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (FIVE)	Types, 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC-DC
TUNING RANGE—BROADCAST	550-1700KC RATING .265 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and chassis. Volume control should be at maximum position, output of signal generator should be no higher than is necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to rear stator of tuning cap. Low side to chassis.	455KC	Tuning cap. open.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used, reduce dummy ant. to .001 MFD. to reduce hum modulation.
2		Loop	1500KC	1500KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3		"	1400KC	Tune for maximum output.	"	A6	"
4		"	600KC	"	"	A7	Rock tuning cap. and adjust for maximum output. Repeat Steps 2, 3 and 4 until no further increase in output is obtained.

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PARTS LIST AND DESCRIPTIONS

TELESONIC (MEDCO) MODEL 1642

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter		12SA7GT	8AD	
2	IF Amp.		12SK7GT	8N	
3	Det.-AVC-AF		12SQ7GT	8Q	
4	Power Output		50L6GT	7AC	
5	Rectifier		35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	40	150		PRSA150-40-	BRD4415	2N511	M-2x40-150	TA-440	Filter - Red
B	40	150		40					"
7	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Line Filter
8	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
9	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
10	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	" "
11	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	AVC Filter
12	350	500		1468-00035	5W5T35	MC241	MO.5-33	1FM-33	Audio Plate Bypass
13	250	500		1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Diode Filter
14	100	500		1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Osc. Grid Capacitor
15	250	500		1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Fixed Padder

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
16A	1 Meg.			UM159	D11-137	M-61-S	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 16A per instructions
C	Switch			M26	41	SW-A	" " " "

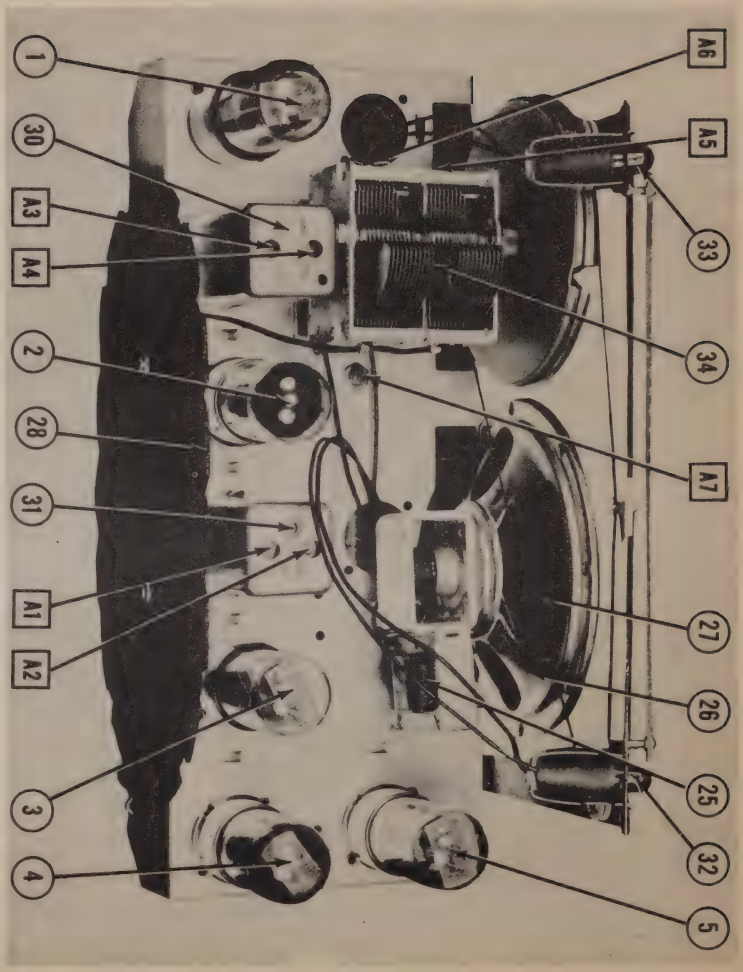
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	IRC PART No.	IDENTIFICATION CODES
17	20KΩ	½		BTS-22K	Red-Blk.-Or. Oscillator Grid
18	2 Meg.	½		BTS-2.2 Meg.	Red-Blk.-Grn. AVC Network
19	4.7 Meg.	½		BTS-4.7 Meg.	Yl.-Vl.-Grn. AF Grid
20	330KΩ	½		BTS-330K	Or.-Grn.-Yl. AF Plate Load
21	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Output Grid
22	170Ω	½		BW-½-150	Br.-Vl.-Br. Output Cathode
23	450Ω	10		BT-2-470	Filter
24	200Ω	2		BW-2-220	Red-Blk.-Br. Pilot Light Shunt

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
25	2300Ω	3.2Ω	150Ω	.5Ω		A-3876*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	JENSEN PART No.		INSTALLATION NOTES
26	FIELD PM	VC IMP. 3.2Ω		ST-105 Mod. P5-X		
27	CONE DIA. 4-5/8"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

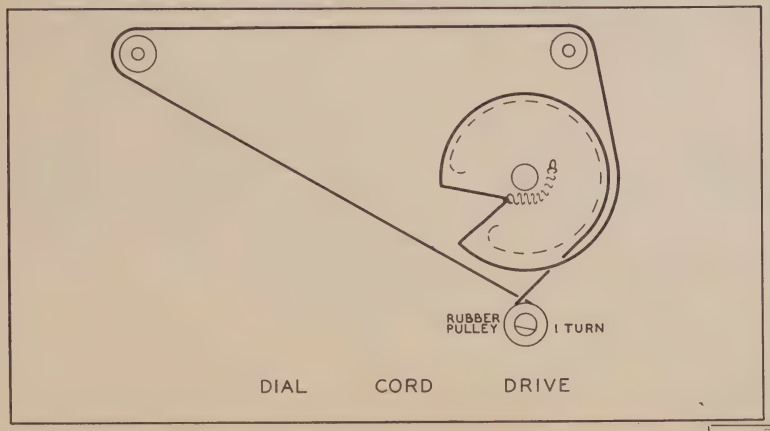
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.	MEISSNER PART No.	
28	Loop Ant.		1.2Ω			
29	Osc. Coil		5.5Ω		14-1040	
30	Input IF	42Ω	15Ω		16-6658	
31	Output IF	42Ω	42Ω	S-104	16-6660	

DIAL LIGHT

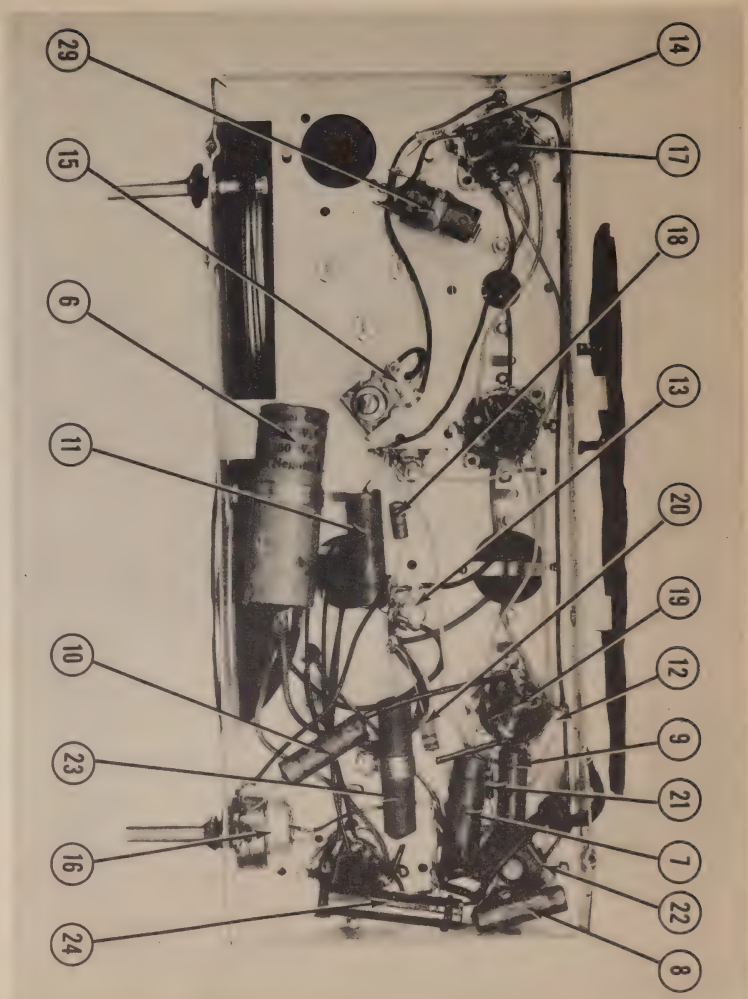
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: TELESONIC (MEDCO) PART No.		INSTALLATION NOTES
32	Bayonet	3.2	0.15A	White			Type 1490
33	"	"	"	"			"

MISCELLANEOUS

ITEM No.	PART NAME	TELESONIC (MEDCO) PART No.	NOTES
34	2 Gang Var. Cap		33-197 MMF (Each section)

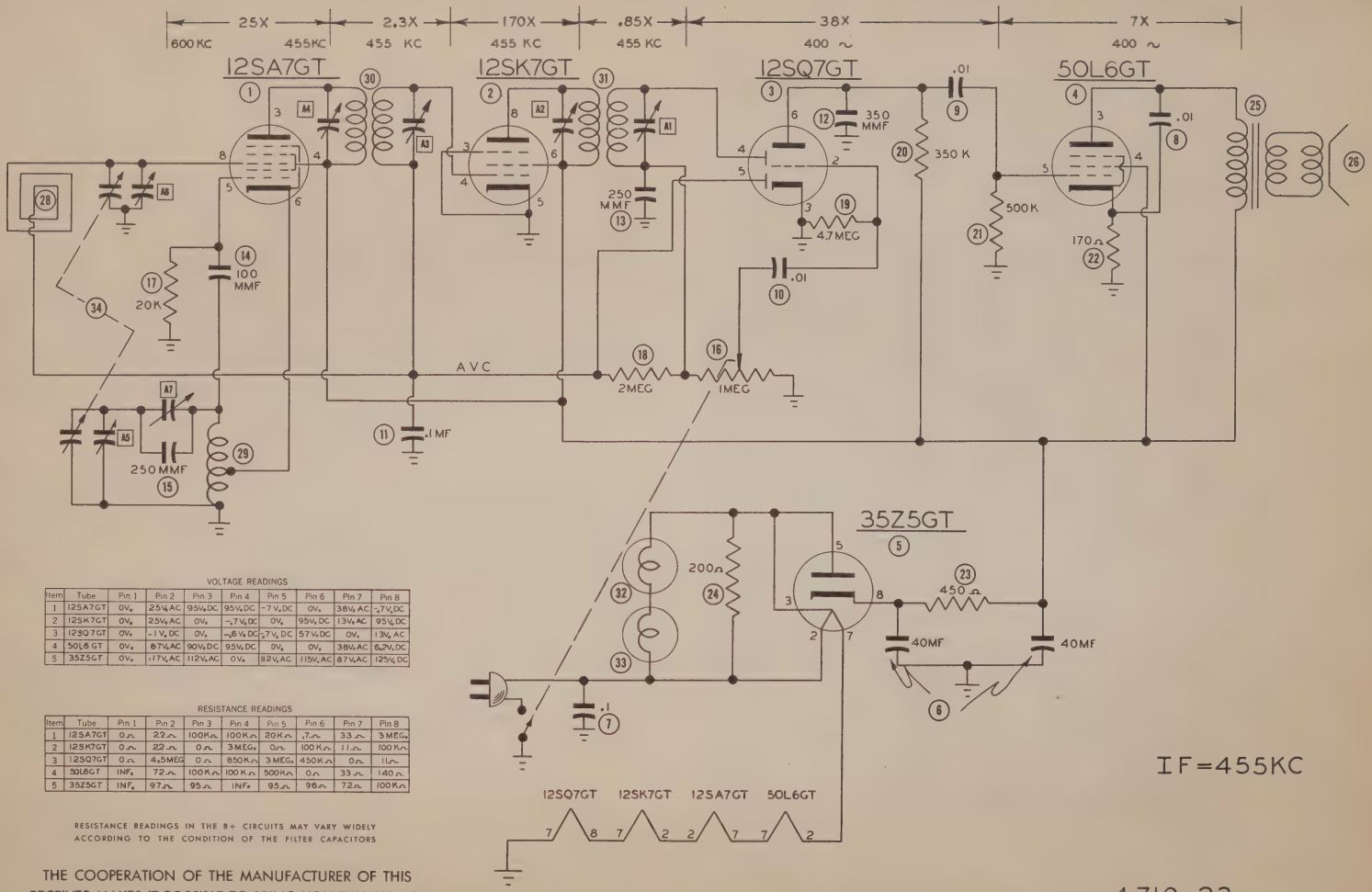


CHASSIS—BOTTOM VIEW



TELESONIC (MEDCO) MODEL 1642

TELESONIC (MEDCO) MODEL 1642



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0V.	25V.AC	95V.DC	95V.DC	-7 V.DC	0V.	38V.AC	-7V.DC
2	12SK7GT	0V.	25V.AC	0V.	-.7V.DC	0V.	95V.DC	13V.AC	95V.DC
3	12SQ7GT	0V.	-1V.DC	0V.	-.6V.DC	-7V.DC	57V.DC	0V.	13V.AC
4	50L6GT	0V.	87V.AC	90V.DC	95V.DC	0V.	0V.	38V.AC	6.2V.DC
5	35Z5GT	0V.	117V.AC	112V.AC	0V.	112V.AC	115V.AC	87V.AC	125V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SA7GT	0Ω	22Ω	100KΩ	100KΩ	20KΩ	.7Ω	33Ω	3MEG.
2	12SK7GT	0Ω	22Ω	0Ω	3MEG.	0Ω	100KΩ	11Ω	100KΩ
3	12SQ7GT	0Ω	4.5MEG	0Ω	850KΩ	3MEG.	450KΩ	0Ω	1Ω
4	50L6GT	INF.	72Ω	100KΩ	100KΩ	500KΩ	0Ω	33Ω	140Ω
5	35Z5GT	INF.	97Ω	95Ω	INF.	95Ω	98Ω	72Ω	100KΩ

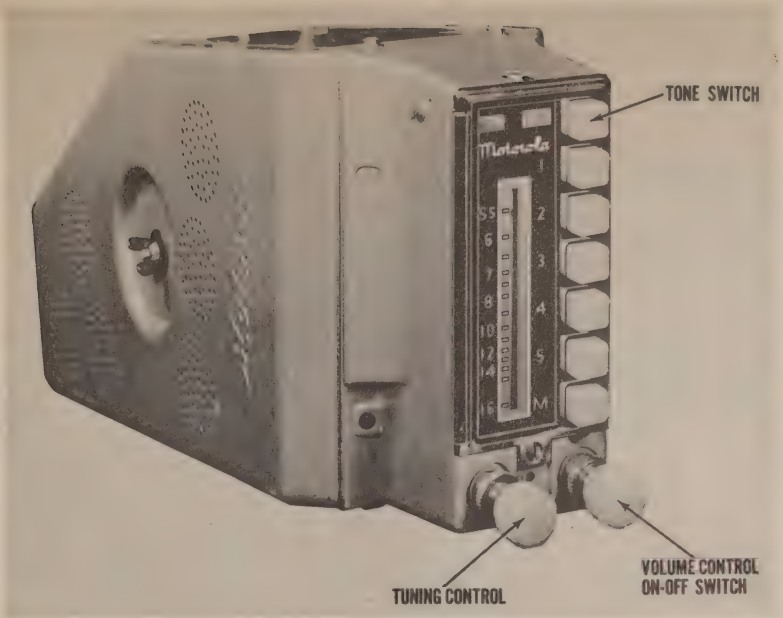
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

4 710-23

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



MOTOROLA MODEL CR6

TRADE NAME	Motorola, Model CR6 (For 1946, 1947 Plymouth, Dodge, Desoto & Chrysler)
MANUFACTURER	Galvin Mfg. Corp., 4545 Augusta Blvd., Chicago, Ill.
TYPE SET	Battery Operated Custom Built Automotive Superheterodyne with Pushbutton Tuning
TUBES (EIGHT)	Types, 6SK7 RF Amp., 6SA7 Converter, 6SK7GT 1st IF Amp., 6SQ7GT Det.-AVC-AF, 6SQ7 Phase Inverter, (2) 6V6GT Power Output, 6X5GT or 0Z4 Rectifier.
POWER SUPPLY	6 Volt Storage Battery
TUNING RANGE—BROADCAST	535-1600KC RATING 8.2 Amp. @ 6.3 Volts DC

ALIGNMENT INSTRUCTIONS--READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

In Step 2 with tuning slugs completely out and against stop, the end of the cores should extend 1-1/8" from the cans. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
After alignment is completed set signal generator at 1400KC and tune receiver for maximum output. Set pointer on 1400KC reference mark on dial. After receiver has been installed in car adjust A7 for maximum volume on a weak station near 1400KC.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 8 (grid) 6SA7. Low side to chassis.	455KC	High freq. end of dial.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
2	60 MMFD and 21" coaxial lead. Cap. at gen. end.	High side to ant. receptacle. Low side to chassis.	1600KC	Tuning slugs out completely	"	A5,A6, A7	" " " "
3	"	"	1425KC	One turn of tuning control from high frequency end of dial.	"	A8,A9, A10	Mark manual tuning shaft to indicate 1 full turn. Adjust cores for maximum output.
4	"	"	Turn signal generator off but leave connected.	Four more full turns from reference mark in Step 1.	"	All	Adjust for maximum noise.

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: MOTOROLA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	6SK7	6SK7	8N	
2	Converter	6SA7	6SA7	8R	
3	1st IF Amp.	6SK7GT	6SK7GT	8N	
4	Det.-AVC-AF	6SQ7GT	6SQ7GT	8Q	
5	Phase Inverter	6SQ7	6SQ7	8Q	
6	Power Output	6V6GT	6V6GT	7AC	
7	" "	6V6GT	6V6GT	7AC	
8A	Rectifier	6X5GT	6X5GT	6S	
B	"	0Z4	0Z4	4R	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9A	20	400	23A75429		UP2245C	FP339	DY-312	EL-322	■ Filter
B	20	400							▲ "
C	20	25							Bias Filter
10	.5	100	8A17028						Hash Filter
11	.5	100	8A19133						" "
12	.006	1600	8A12840	1684-006	MD16D6	OW344	TM-16-006	TR-26	Buffer
13	.003	1000	8K13165	1084-003	MD16D3	TP457	TM-10-003	TR-23	Output Plate Bypass
14	.01	400	8K23690	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
15	.01	400	8K23690	484-01	DT4S1	TP421	S-4-01	TC-11	" "
16	.1	400	8K13166	484-.1	DT4P1	TP428	S-4-1	TC-1	Muting Capacitor
17	.002	400	8A4736	484-002	DT6D2	TP405	S-6-002	TC-22	Tone Compensation
18	.01	400	8K23690	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
19	.01	400	8K23690	484-01	DT4S1	TP421	S-4-01	TC-11	Tone Compensation
20	.1	400	8K13166	484-.1	DT4P1	TP428	S-4-1	TC-1	RF Plate Decoupling
21	.05	400	8A14791	484-05	DT4S5	TP426	S-4-05	TC-15	Screen Bypass
22	.5	100	8A19133						Solenoid Shunt
23	.05	400	8A14791	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
24	.006	100	8A4529	484-006	DT6D6	TP409	S-6-006	TC-26	Ant. Coupling
25	250	500	21R6648	1468-00025	5W5T25	XO240	XO.5-325	1FM-325	Audio Plate Bypass
26	1000	500	21R6638	1468-001	1W5D1	XO255	XW.5-21	1FM-21	Inverter Plate Bypass
27	50	300	21R6513						AVC Coupling
28A	120		21A70176						Diode Filter
B	120								" "
29	400		21A71872						Fixed Trimmer Cer.
30	50	300	21R6513						Osc. Grid Capacitor
31	5		21K70720						RF Coupling
32	90		21A20877						Ant. Filter

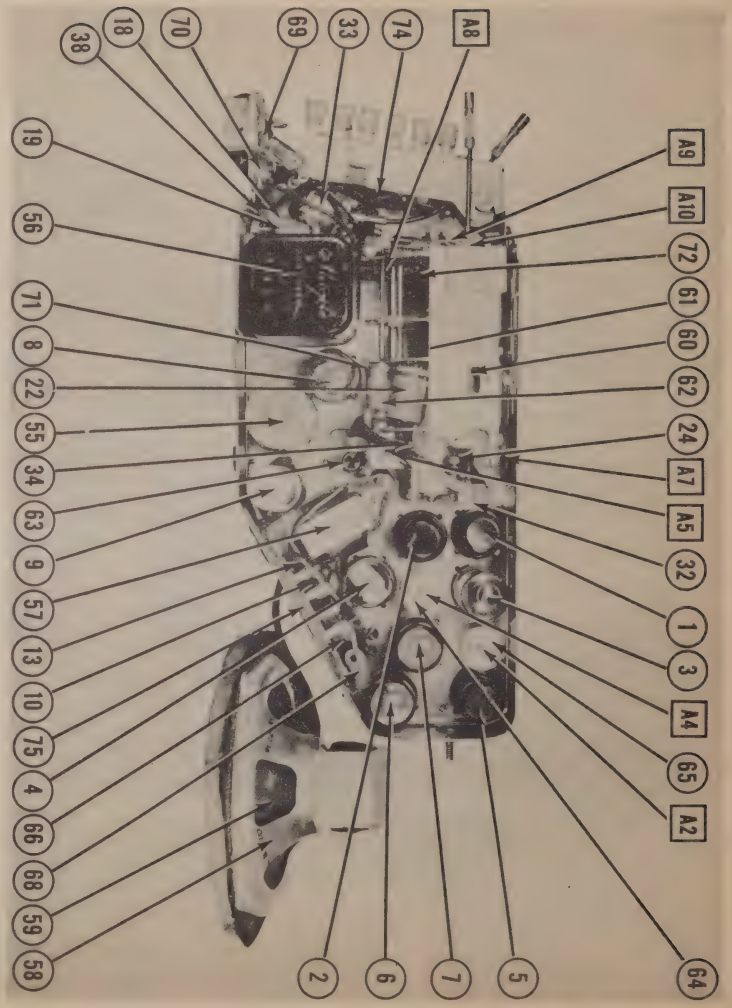
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MOTOROLA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
33A	500KΩ	1	18A71925				Volume Control & Switch
B	500KΩ	1	18A70172				Alternate Volume Control & Switch

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MOTOROLA PART No.	IRC PART No.	IDENTIFICATION CODES
34	470KΩ	½	6R6032	BTS-470K	Yl.-Vl.-Yl. RF Grid
35	100KΩ	½	6R6075	BTS-100K	Br.-Blk.-Yl. Converter Grid
36	47KΩ	½	6R6056	BTS-47K	Yl.-Vl.-Or. Oscillator Grid
37	10KΩ	1	6R6106	BTA-10K	Br.-Blk.-Or. Screen Dropping
38	22KΩ	½	6R6028	BTS-22K	Red-Red-Or. Tone Compensation

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	MOTOROLA PART No.	IRC PART No.	
39	330Ω	1	6R6147	BW-1-330	Or.-Or.-Br. Decoupling
40	1 Meg.	½	6R6004	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
41	47KΩ	½	6R6056	BTS-47K	Yl.-Vi.-Or. Diode RF Filter
42	2.2 Meg.	½	6R3927	BTS-2.2 Meg.	Red-Red-Grn. AF Grid
43	3.3 Meg.	½	6R2118	BTS-3.3 Meg.	Or.-Or.-Grn. AF Grid
44	220KΩ	½	6R6015	BTS-220K	Red-Red-Yl. AF Plate Load
45	220KΩ	½	6R6015	BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
46	220KΩ	½		BTS-220K	Red-Red-Yl. Phase Inverter Grid-See Note 1
47	220KΩ	½	6R6407	BTS-220K	Red-Red-Yl. Output Grid
48	270KΩ	½	6R6414	BTS-270K	Red-Vi.-Yl. Output Grid
49	1000Ω	1	6R6184	BTA-1000	Br.-Blk.-Red Filter
50	1 Meg.	½	6R6004	BTS-1 Meg.	Br.-Blk.-Grn. AVC Load
51	150Ω	1	6R8253	BW-1-150	Br.-Grn.-Br. Bias Network
52	56Ω	½		BW-½-56	Grn.-Blue-Blk. Bias Network-See Note 2
53	50Ω	½	6R6005	BW-½-47	Grn.-Blk.-Blk. Hash Suppression
54	50Ω	½	6R6005	BW-½-47	Grn.-Blk.-Blk. " "

Note 1 - Some models use 470KΩ in this application. Replacement same as Item #34.
Note 2 - Early production uses 62Ω in this application. Replacement same as Item #52.

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA			INSTALLATION NOTES
				MOTOROLA PART No.	MALLORY PART No.	RADIART PART No.	
55	Interrupter	6.3	115∿	48B3333	859	5342M	

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA			INSTALLATION NOTES
	PRI.	SEC. 1	SEC. 2	SEC. 3	MOTOROLA PART No.	STANCOR PART No.	THORDARSON PART No.	
56	5.7V DC @ 2.15A	560V CT @ .052A			25B70950	P-4062*	T22R20*	*Drill new mounting holes.

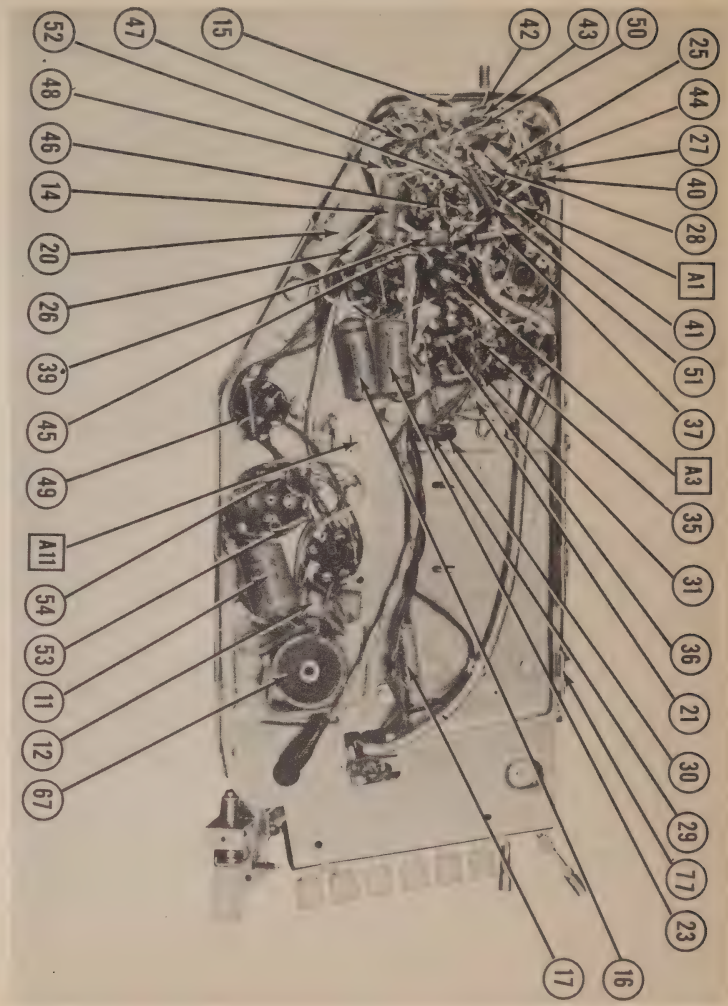
TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		MOTOROLA PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
57	11000Ω CT	3.5Ω	330Ω CT	.3Ω	25K72044	A-3850	T22S47		

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			MOTOROLA PART No.	JENSEN PART No.		
	FIELD RES	VC IMP.		ST-428		
58A	4.25Ω	3.5Ω	50B74041	Mod. H6-S		
B			50B74946			Alternate Speaker
	CONE DIA.	VC DIA.				
59	6-1/16"	11/16"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

CHASSIS—BOTTOM VIEW



VOLTAGE READINGS

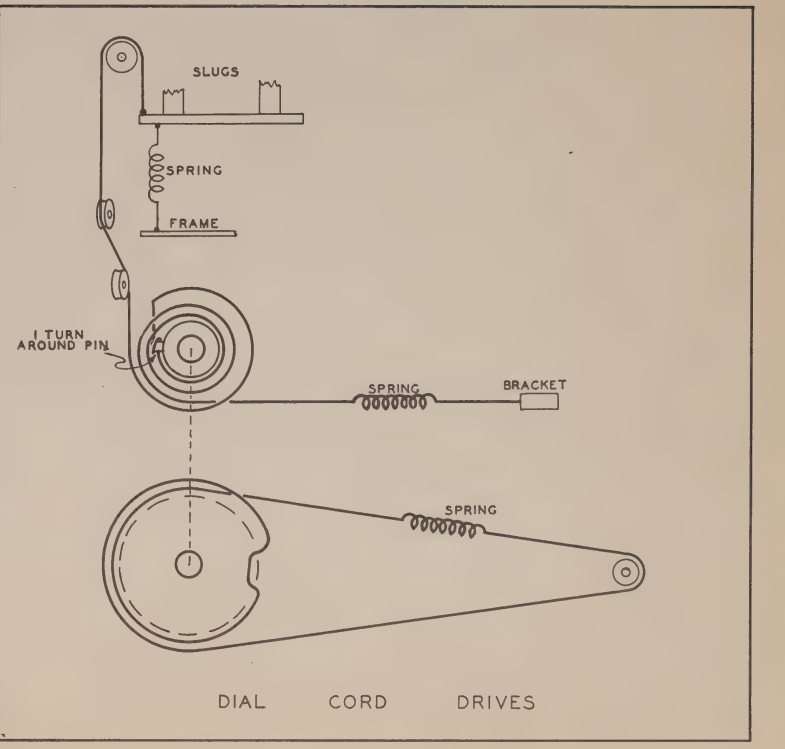
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SK7	0V.	0V.	0V.	-.4V.DC	0V.	90V.DC	5.7V.DC	190V.DC
2	6SA7	0V.	0V.	190V.DC	90V.DC	-.5V.DC	0V.	5.7V.DC	-.6V.DC
3	6SK7GT	0V.	0V.	0V.	-.8V.DC	0V.	90V.DC	5.7V.DC	197V.DC
4	6SQ7GT	0V.	-.8V.DC	0V.	-.6V.DC	-.8V.DC	107V.DC	0V.	5.7V.DC
5	6SQ7	0V.	-13V.DC	-12.5V.DC	0V.	0V.	68V.DC	0V.	5.7V.DC
6	6V6 GT	-12.5V.DC	0V.	223V.DC	197V.DC	-11V.DC	-3V.DC	5.7V.DC	0V.
7	6V6 GT	-12V.DC	0V.	223V.DC	197V.DC	-10.5V DC	-12.5V.DC	5.7V.DC	0V.
8	6X5 GT	0V.	0V.	270V.AC	-25V.DC	270V.AC	0V.	5.7V.DC	223V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SK7	0Ω	0Ω	0Ω	2 MEG.	0Ω	90 KΩ	.1Ω	80 KΩ
2	6SA7	0Ω	0Ω	80 KΩ	90 KΩ	43 KΩ	.3Ω	.1Ω	1.8 MEG.
3	6SK7GT	0Ω	0Ω	0Ω	1.7 MEG.	0Ω	90 KΩ	.1Ω	80 KΩ
4	6SQ7GT	0Ω	5.5 MEG.	0Ω	480 KΩ	950 KΩ	300 KΩ	0Ω	.1Ω
5	6SQ7	0Ω	220 KΩ	220Ω	0Ω	0Ω	300 KΩ	0Ω	.1Ω
6	6V6GT	180 KΩ	0Ω	80 KΩ	80 KΩ	420 KΩ	48Ω	.1Ω	.0Ω
7	6V6GT	180 KΩ	0Ω	80 KΩ	80 KΩ	490 KΩ	180 KΩ	.1Ω	0Ω
8	6X5GT	0Ω	0Ω	400Ω	180Ω	400Ω	INF.	.1Ω	80 KΩ

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 6.3 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



DIAL CORD DRIVES

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	MOTOROLA PART No.	MEISSNER PART No.	
60	Ant. Coil		12.5Ω	1A71881		
61	Rf Coil		12.5Ω	1A71881		
62	Osc. Coil		3.5Ω	1A71879		
63	Osc. Padder		4Ω	24A70227		
64	Input IF	21Ω	21Ω	24B70827		
65	Output IF	21Ω	21Ω	24B70827		
66	A. Choke		0Ω	24K70840		
67	" "		0Ω	24A70199		
68	Speaker Field Choke		0Ω	24K73535		

DIAL LIGHT

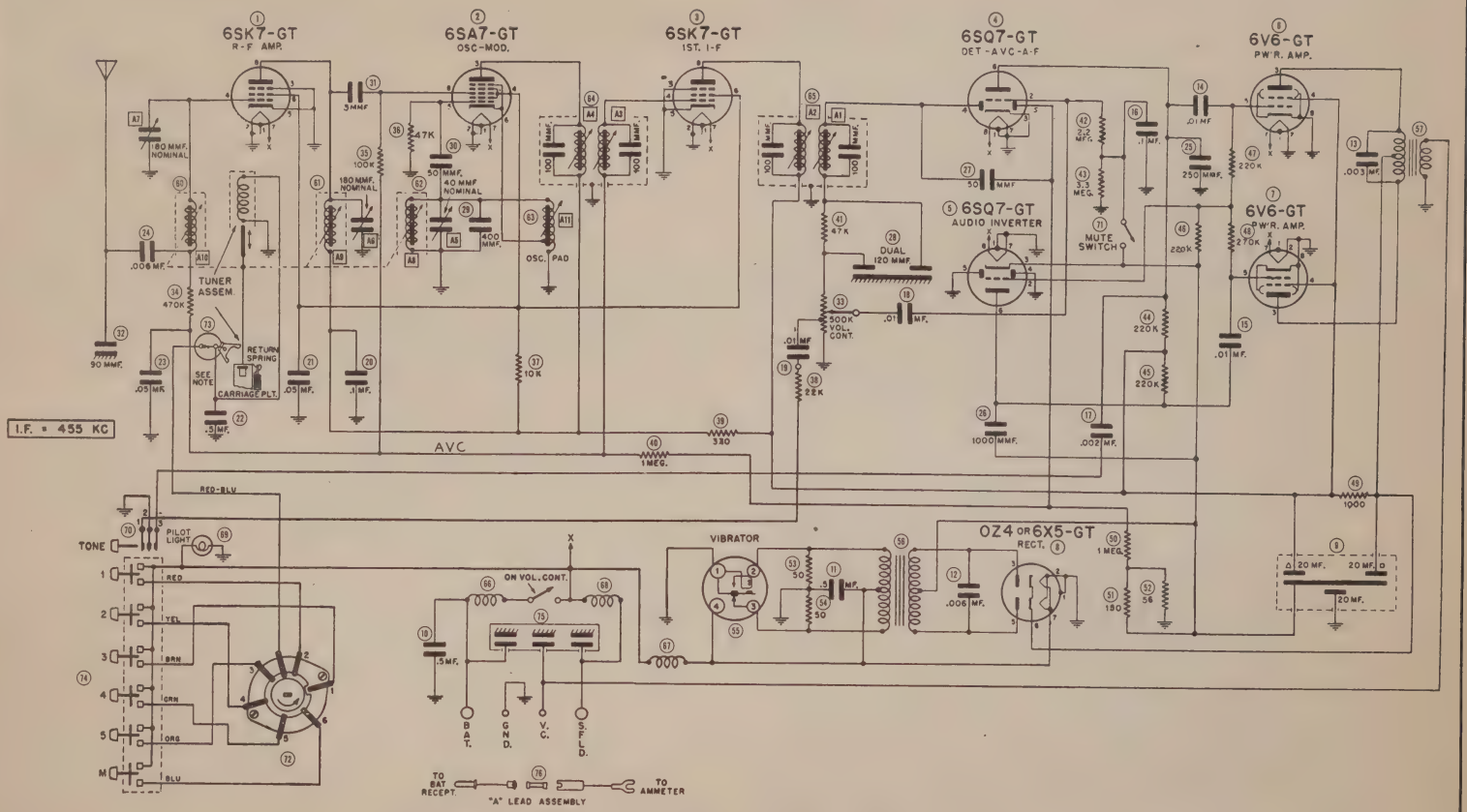
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					MOTOROLA PART No.		
69	Bayonet	7.5	0.2	White	65X4151		Type 51

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
70	Switch	1X74087	Tone Control
71	Switch	40A70931	Muting
72	Switch	40B70952	Selector
73	Switch	1B70944	Solenoid Assembly
74	Pushbutton Assby	40S73219	
75	Spark Plate	1X74089	
76	Fuse	65K4637	(20 Amp) 3AG
77	"Set Up" Knob		
A5	Trimmer	20A70214	30-60 MTF
A6	"	8A70601	50-180 MTF
A7	"	8A70601	50-180 MTF

PUSHBUTTON ADJUSTMENTS

1. Turn receiver on and allow it to warm up for about 15 minutes.
2. Collapse antenna until signal is weak.
3. Press manual pushbutton.
4. Turn tuning knob until desired station is tuned in.
5. Press desired button and hold in until tuning mechanism completes its operation.
6. Slide set up button (77) until click is heard.
7. Turn tuning control until previously noted program is heard. (Pointer does not indicate station setting. If pointer reaches limit of travel continue turning tuning control as mechanism will not be damaged.)
8. To set up the remaining buttons follow same procedure outline above.



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

OLDSMOBILE MODEL 982375

TRADE NAME	Oldsmobile Model 982375
MANUFACTURER	Oldsmobile Motors, Div. General Motors, Lansing, Mich.
TYPE SET	Battery Operated Custom Built Automotive Superheterodyne with Pushbutton Tuning
TUBES (SEVEN)	Types, 7A7 RF Amp., 7Q7 Converter, 7A7 IF Amp., 7E6 Det.-AVC-AF, (2) 7C5 Power Output, 0Z4G Rectifier.
POWER SUPPLY	6 Volt Storage Battery
TUNING RANGE—BROADCAST	540-1610KC RATING 7.0 Amp. @ 6.3 Volts DC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. After receiver is installed in car, adjust A6 for maximum volume on a weak station near 1400KC.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 6 (grid) 7Q7. Low side to chassis.	260KC	Tuning slugs out completely	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
2	65MMFD.	High side to ant. receptacle. Low side to chassis.	1610KC	"	"	A5,A6, A7.	" " " "
3	65MMFD.	"	1400KC	Tune for maximum output.	"		Set pointer at 1400KC reference mark on dial.

PUSHBUTTON ADJUSTMENTS

1. Turn receiver on and allow it to warm up for about 15 minutes.
2. Loosen pushbuttons about 1/2 turn counter-clockwise.
3. Push in completely any button and hold. Manually tune in accurately desired station and gently tighten pushbutton.
4. Release pushbutton and tighten firmly.
5. Check accuracy of setting by detuning with manual tuning control and retuning with pushbutton. If setting is off, repeat Steps 2, 3 and 4.
6. To set up the remaining buttons follow the same procedure outlined above.

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 6, Indiana

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PARTS LIST AND DESCRIPTIONS

OLDSMOBILE

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	7A7	7A7	8V	
2	Converter	7Q7	7Q7	8AL	
3	IF Amp.	7A7	7A7	8V	
4	Det.-AVC-AF	7E6	7E6	8W	
5	Power Output	7C5	7C5	6AA	
6	Power Output	7C5	7C5	6AA	
7	Rectifier	0Z4G	0Z4G	4R	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
8A	10	350	1214417	AF6K4A	UP7DJ52			EL-323	▲ Filter
B	30	300						TA-25	■ "
C	20	25							▲ Cath. Bypass
D	20	25		PRS25-25					" "
E	.5	100	7240248						Hash Filter
10	.5	100	7240248						" "
11	.004	1500	1213854	1684-004	MD16D4	0W343	TM-16-004	TR-24	Buffer
12	.002	600	1209148	684-002	DT6D2	TP405	TM-16-002	TC-22	Tone Compensation
13	.001	600	1212097	684-001	DT6D1	TP404	TM-6-001	TC-21	Output Plate Bypass
14	.2	200	7234127	494-.2	DT4P2	TP429	TM-6-2	TC-2	Audio Coupling
15	.05	600	7230592	684-05	DT6S5	TP415	TM-6-05	TC-15	Tone Compensation
16	.005	600	7230912	684-005	DT6D5	TP408	TM-6-005	TC-25	Audio Coupling
17	.05	600	7230592	684-05	DT6S5	TP415	TM-6-05	TC-15	Screen Bypass
18	.01	600	1208600	684-01	DT6S1	TP410	TM-6-01	TC-11	IF Cath. Bypass
19	.02	600	1212099	684-02	DT6S2	TP412	TM-6-02	TC-12	RF Cath. Bypass
20	.05	600	7230592	684-05	DT6S5	TP415	TM-6-05	TC-15	AVC Filter
21	.05	600	7230592	684-05	DT6S5	TP415	TM-6-05	TC-15	" "
22	500	500	1207636	1468-0005	5W5T5	MC245	MO.5-35	1FM-35	Audio Plate Bypass
23	50	500	1207625	1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	AVC Coupling
24	50	500	1207625	1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
25	245		1216670						Fixed Trimmer
26	10	500	7234242	1468-00001	5W5Q1	MC215	MO.5-41	1FM-41	RF Coupling
27	150	500	7230893	1468-00015	5W5T15	MC236	MO.5-315	1FM-315	Fixed Padder

CONTROLS

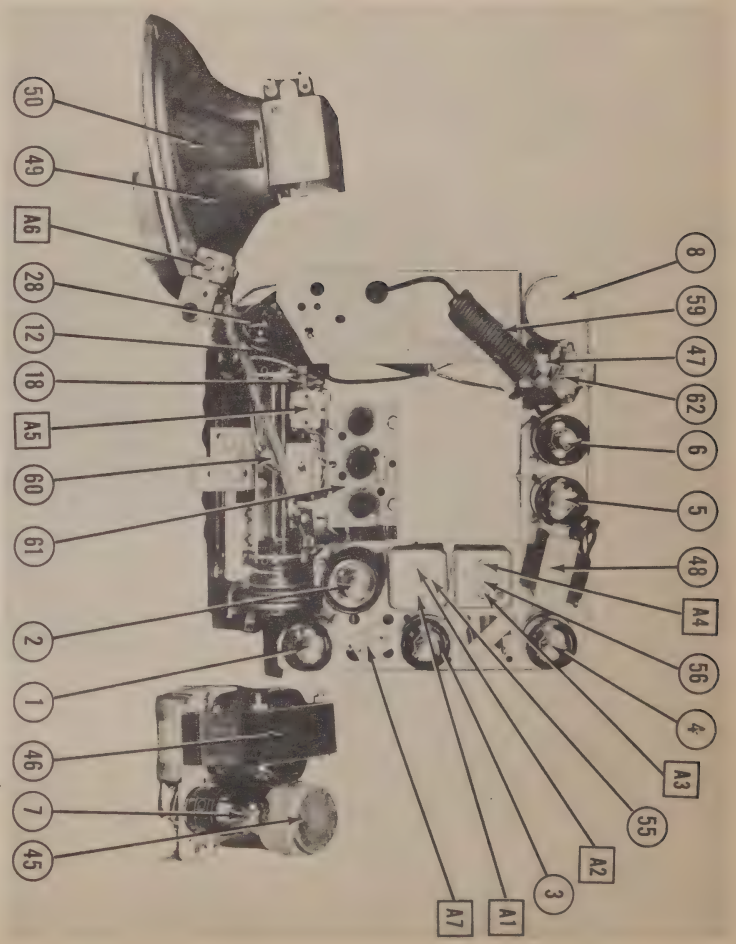
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
28A	1 Meg.Ω	1	1216673				Volume Control & SW - See Note
B	30KΩ	1					Tone Control - See Note

Note-This is a dual control and switch operated by concentric shafts.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
29	220Ω	½	7237835	BW-½-220	Red-Red-Br. RF Cathode
30	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
31	22KΩ	½	1214550	BTS-22K	Red-Red-Or. RF Plate Load
32	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. Converter Grid
33	22KΩ	½	1214550	BTS-22K	Red-Red-Or. Oscillator Grid
34	220Ω	½	7237835	BW-½-220	Red-Red-Br. IF Cathode
35	18K	2	7239157	ET-2-18K	Br.-Gray-Or. Screen Dropping
36	220KΩ	½	1214555	BTS-220K	Red-Red-Yl. Diode Load
37	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
38	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. AVC Diode Load
39	150KΩ	½	1211163	BTS-150K	Br.-Grn.-Yl. Tone Compensation
40	3900Ω	½	1214546	BTS-3900	Or.-White-Red AF Cathode
41	33KΩ	½	1213845	BTS-33K	Or.-Or.-Or. AF Plate Load
42	270Ω	1	1213846	BW-1-270	Red-Vi.-Br. Output Cathode
43	1800Ω	2	1214573	ET-2-1800	Br.-Gray-Red Filter
44	150Ω	1	1211005	BW-1-150	Br.-Grn.-Br. Hash Suppression

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: RADIART PART No.	INSTALLATION NOTES
45	Interrupter	6.3	115~	8638	870	5335	

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDARSON PART No.
46	5.3V LC @ 4.5A	540V CT @ .067A			1214411		

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	INSTALLATION NOTES
47	11000Ω CT	4.2Ω	540Ω CT	.7Ω	1216675		T22S47	Cut mounting tabs to duplicate original.

TRANSFORMER (INPUT)

ITEM No.	RATING: MATCHED TO	RATING: DC RES.	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	INSTALLATION NOTES
48	P-P Grids	30006 CT	1214405		T2SA22*	* Use seconcary only.

SPEAKER

ITEM No.	RATINGS: FIELD	RATINGS: VC IMP.	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: JENSEN PART No.		INSTALLATION NOTES
49	PM	4.2Ω	1216674			
50	CONE DIA. 6¼" x9-1/8"	VC DIA. 1"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: UMS OLDSMOBILE PART No.	REPLACEMENT DATA: MEISSNER PART No.	
51	Ant. Choke		4Ω	1214382		
52	Ant. Coil		9.5Ω	1216665		Items 52, 53 & 54 are ganged, slug tuned, and obtained as complete assembly.
53	RF Coil		9.5Ω	1216665		
54	Osc. Coil	.3Ω	4.5Ω	1216665		
55	Input IF	39Ω	39Ω	1216666	16-6652	
56	Output IF	55Ω		1216667		
57	Hash Choke		0Ω	1213663		
58	Filament Choke		0Ω	1216668		
59	Spark Choke		0Ω	1216669		

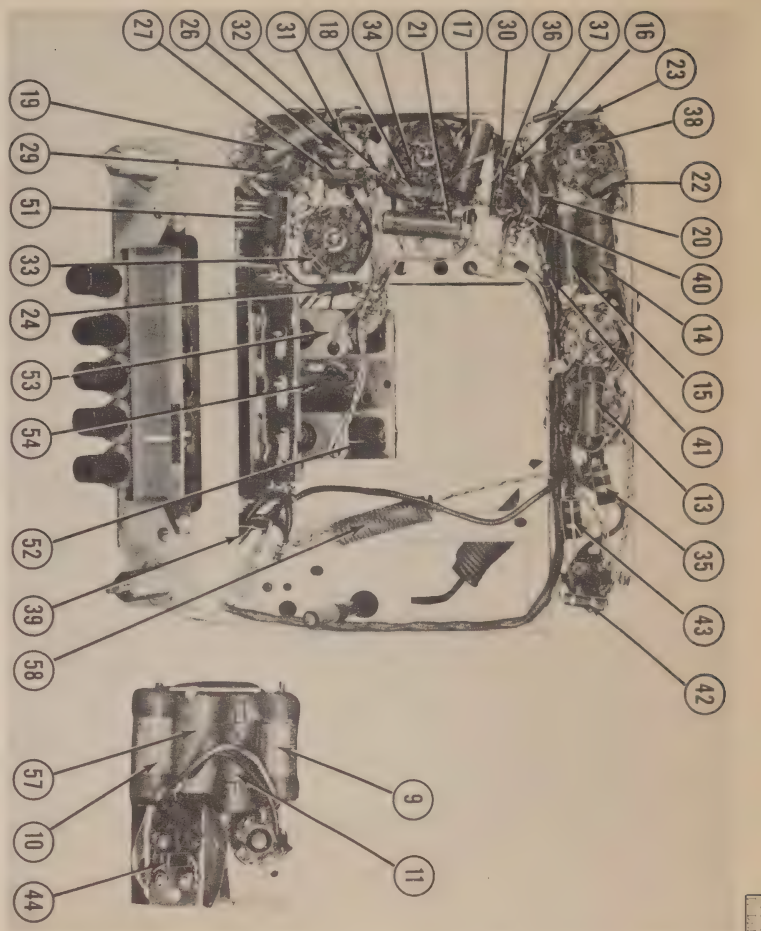
DIAL LIGHT

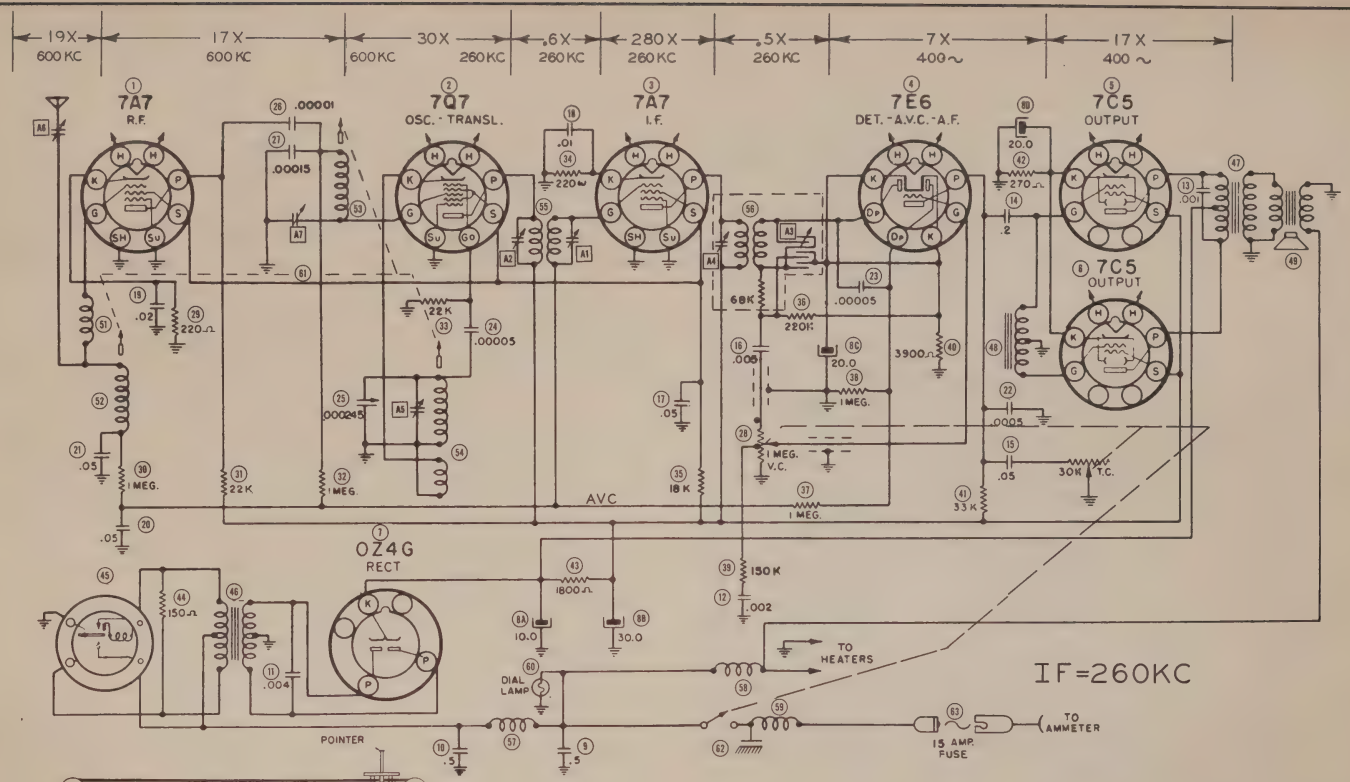
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: UMS OLDSMOBILE PART No.		INSTALLATION NOTES
60	Bayonet	6-8	0.4	White	125588		Type 55

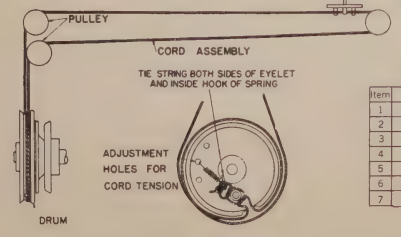
MISCELLANEOUS

ITEM No.	PART NAME	UMS OLDSMOBILE PART No.	NOTES
61	Tuner Assembly	1216690	Mechanical Portion
62	Spark Plate	1212278	
63	Fuse	120151	(5 Amp.) 25 Volt
A6	Trimmer	1216671	Ant. Trimmer Adj.
A7	"	1216672	RF Trimmer Adj.
	Dial Glass	1216679	
	Dial Pointer	1216682	

CHASSIS—BOTTOM VIEW







DIAL CORD HOOKUP

4710-25

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7A7	6V.DC	100V.DC	62V.DC	0V.	0V.	-1V.DC	1.4V.DC	0V.
2	7Q7	6V.DC	198V.DC	62V.DC	-.4V.DC	0V.	-3V.DC	0V.	0V.
3	7A7	6V.DC	198V.DC	62V.DC	0V.	0V.	-1V.DC	1.4V.DC	0V.
4	7E6	6V.DC	140V.DC	0V.	7V.DC	-1V.DC	3V.DC	7V.DC	0V.
5	7C5	6V.DC	245V.DC	202V.DC	202V.DC	0V.	0V.	13V.DC	0V.
6	7C5	6V.DC	245V.DC	202V.DC	62V.DC	0V.	0V.	13V.DC	0V.
7	0Z4	0V.	0V.	250V.AC	0V.	250V.AC	0V.	0V.	250VDC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7A7	.1Ω	110KΩ	110KΩ	0Ω	0Ω	2.5MEG	200Ω	0Ω
2	7Q7	.1Ω	90KΩ	110KΩ	22KΩ	0Ω	2.5MEG	.3Ω	0Ω
3	7A7	.1Ω	90KΩ	110KΩ	0Ω	0Ω	1.7MEG	200Ω	0Ω
4	7E6	.1Ω	120KΩ	1 MEG.	3.5KΩ	800KΩ	270KΩ	3.5KΩ	0Ω
5	7C5	.1Ω	90KΩ	90KΩ	90KΩ	30KΩ	1.2KΩ	230Ω	0Ω
6	7C5	.1Ω	90KΩ	90KΩ	110KΩ	INF.	1.5KΩ	230Ω	0Ω
7	0Z4	INF.	INF.	280Ω	0Ω	260Ω	0Ω	INF.	90KΩ

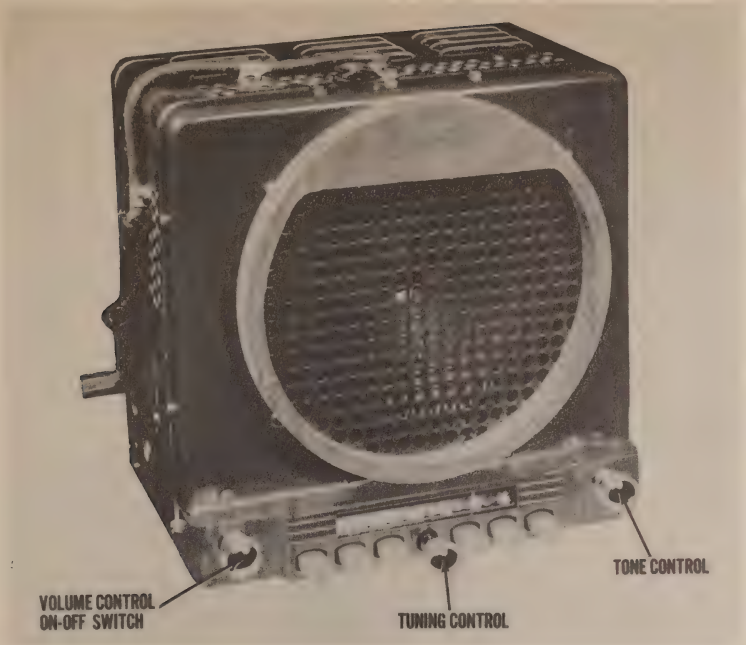
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by connecting negative (-) 3 volts to the AVC line.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Battery voltage maintained at 6.3 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

PACKARD MODEL
PA382042 (PHILCO MODEL P-4635)



PACKARD MODEL
PA382042 (PHILCO MODEL P-4635)

PACKARD MODEL PA 382042

TRADE NAME	Packard, Model PA 382042 (Philco Model P4635)
SUPPLIER	Packard Motor Car Co., 1580 E. Grand Blvd., Detroit, Mich.
TYPE SET	Battery Operated Custom Built Automotive Superheterodyne with Pushbutton Tuning
TUBES (EIGHT)	Types, 7A7 RF Amp., 7B8 Converter, 7A7 IF Amp., 7B6 Det.-AVC-AF, 7A4 Phase Inverter, (2) 7C5 Power Output, 7Y4 Rectifier.
POWER SUPPLY	6 Volt Storage Battery
TUNING RANGE—BROADCAST	540-1600KC RATING 7.9 Amp. @ 6.3 Volts DC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Sensitivity control should be at maximum sensitivity. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. After receiver is installed in car readjust A7 for maximum volume on a weak station near 1400KC. Set sensitivity control at low sensitivity if for local use only, if for distant stations set it for higher or maximum sensitivity.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.05 MFD.	High side to ant. receptacle. Low side to chassis.	265KC	1600KC	Across voice coil	A1,A2, A3,A4.	Short Pin 4 7B8 to ground. Adjust for maximum output in given order and repeat. Remove ground from Pin 4 of 7B8.
2	Connect a 30MMFD cap. from ant. receptacle to chassis.	High side through a 20 MMFD cap. to ant. receptacle. Low side to chassis.	1600KC	"	"	A5	Adjust for maximum output.
3	"	"	1400KC	Tune for maximum output.	"	A6,A7	" " " "
4	"	"	580KC	"	"	A8	Rock tuning cap. and adjust for maximum output. Repeat Steps 2, 3 and 4 until no further increase in output is obtained.

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 6, Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: PACKARD (PHILCO) PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	7A7	7A7	8V	
2	Converter	7B8	7B8	8X	
3	IF Amp.	7A7	7A7	8V	
4	Det.-AVC-AF	7B6	7B6	8W	
5	Phase Inv.	7A4	7A4	5AC	
6	Power Output	7C5	7C5	6AA	
7	Power Output	7C5	7C5	6AA	
8	Rectifier	7Y4	7Y4	5AB	

CAPACITORS

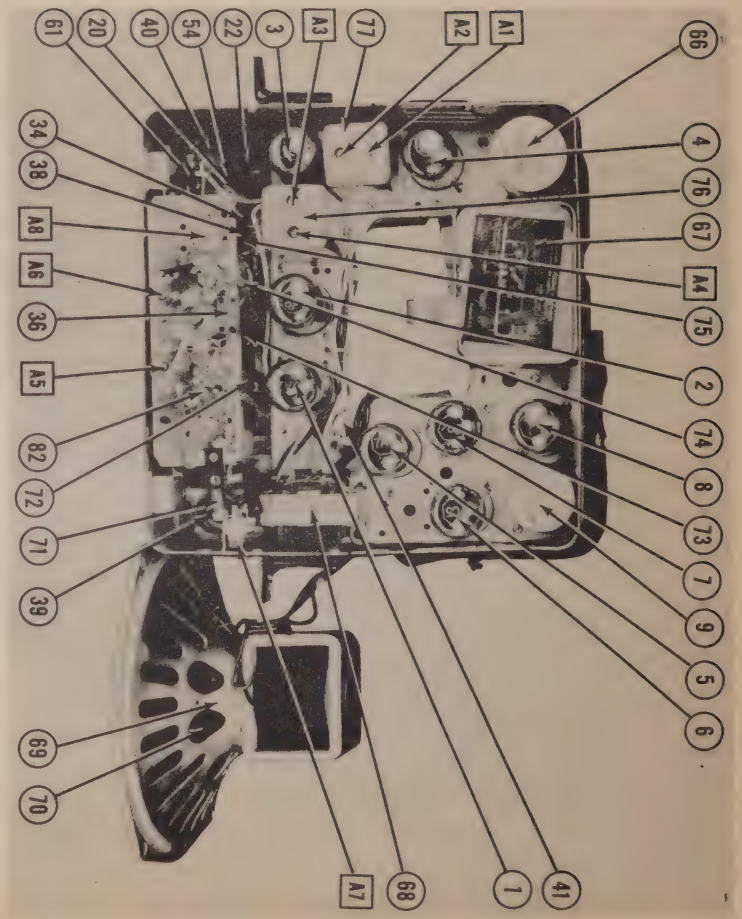
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: PACKARD (PHILCO) PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9A	20	350	61-0150		UP9DJ50	FP424	DY-404	EL-415	◆ Filter
B	10	350							■ "
C	5	300							▲ "
D	10	25							Cath. Bypass
10	.5	200	61-0137	484-.5	DT4P5	TP431	S-4-5	TC-5	Hash Filter
11	.5	100		484-.5	DT4P5	TP431	S-4-5	TC-5	" "
12	.5	200	61-0137	484-.5	DT4P5	TP431	S-4-5	TC-5	" "
13	.005	1600	61-0153	1684-005	MD16D5	QT271	TM-16-005	TR-25	Buffer
14	.01	1000	61-0124	1084-01	TVC10S1	TP434	TM-10-01	TR-11	Output Plate Bypass
15	.05	600	61-0170	684-05	DT6S5	TP415	TM-6-05	TC-15	Audio Coupling
16	.05	600	61-0170	684-05	DT6S5	TP415	TM-6-05	TC-15	" "
17	.004	1000	61-0129	1084-004	MD16D4	TP458	TM-16-004	TR-24	" "
18	.008	600	61-0174	684-008	MD16D8	TP450	TM-6-008	TR-28	Tone Compensation
19	.1	600	61-0113	684-.1	DT6P1	TP418	TM-6-1	TC-1	RF Bypass Pwr. Supp.
20	.07	100	61-0152	484-07		TP452			Tone Compensation
21	.01	400	61-0176	484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
22	.25	100	61-0151	484-.25	DT4P25	TP430	S-4-25	TC-2	Audio Cath. Bypass
23	.05	200	61-0111	484-05	DT4S5	TP426	S-4-05	TC-15	IF Cath. Bypass
24	.05	200	61-0111	484-05	DT4S5	TP426	S-4-05	TC-15	Screen Bypass
25	.05	200	61-0111	484-05	DT4S5	TP426	S-4-05	TC-15	Conv. Cath. Bypass
26	.05	200	61-0111	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
27	.05	200	61-0111	484-05	DT4S5	TP426	S-4-05	TC-15	" "
28	.05	200	61-0111	484-05	DT4S5	TP426	S-4-05	TC-15	RF Cath. Bypass
29	250	500	6010255007	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Hash Filter
30	250	500	6010255007	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	" "
31	250	500	6010255007	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	" "
32	100	500	6010105007	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Audio Plate Bypass
33	250	500	6010255007	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Osc. Anode Coupling
34	54.4	500	61-0149						Fixed Trimmer Cer.
35	100	500	6010105007	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Osc. Grid Capacitor
36	100	500	6010105007	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	Fixed Padder
37	250	500	6010255007	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	RF Coupling
38	215	500	61-0148						Fixed Trimmer

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: PACKARD (PHILCO) PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
39A	350KΩ	1	67-0052		D13-132		Volume Control
B	Shaft		Not Req.		N		Attach to 39A per instructions
C	Switch		" "		41		" " " " "
40A	4 Meg.	1	67-0051		D11-141		Tone Control
B	Shaft		Not Req.		W		Attach to 40A per instructions
41	200 to 700Ω	1	67-0036				Sensitivity Control

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	PACKARD (PHILCO) PART No.	IRC PART No.	
42	680Ω	½	66-1683340	BTS-680	Blue-Gray-Br. RF Cathode
43	10KΩ	½	66-3103340	BTS-10K	Br.-Blk.-Or. RF Plate Load
44	68KΩ	½	66-3683540	BTS-68K	Blue-Gray-Or. Converter Grid
45	22KΩ	½	66-3223340	BTS-22K	Red-Red-Or. Converter Anode Dropping
46	100KΩ	½	66-4101540	BTS-100K	Br.-Blk.-Yl. Oscillator Grid
47	68KΩ	½	66-3683540	BTS-68K	Blue-Gray-Or. AVC Network
48	27KΩ	1	66-3273340	BTA-27K	Red-Vi.-Or. Voltage Dropping
49	1 Meg.	½	66-5101540	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
50	150Ω	½	66-1153340	BW-½-150	Br.-Grn.-Br. IF Cathode
51	470Ω	½	66-1473340	BTS-470	Yl.-Vi.-Br. AF Cathode
52	10 Meg.	½	66-6101540	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
53	220KΩ	½	66-4223340	BTS-220K	Red-Red-Yl. AF Plate Load
54	2200Ω	½	66-2221540	BTS-2200	Red-Red-Red Tone Compensation
55	10 Meg.	½	66-6101540	BTS-10 Meg.	Br.-Blk.-Blue Phase Inverter Grid
56	220KΩ	½	66-4223340	BTS-220K	Red-Red-Yl. Phase Inverter Cathode
57	220KΩ	½	66-4223340	BTS-220K	Red-Red-Yl. Phase Inverter Plate Load
58	470KΩ	½	66-4471540	BTS-470K	Yl.-Vi.-Yl. Output Grid
59	470KΩ	½	66-4471540	BTS-470K	Yl.-Vi.-Yl. Output Grid
60	330Ω	1	66-1334340	BW-1-330	Or.-Or.-Br. Output Cathode
61	1500Ω	½	66-2151540	BTS-1500	Br.-Grn.-Red Feedback
62	4700Ω	1	66-2474340	BTA-4700	Yl.-Vi.-Red Filter
63	1000Ω	1	66-2104340	BTA-1000	Br.-Blk.-Red Filter
64	100Ω	1	66-1104340	BW-1-100	Br.-Blk.-Br. Hash Suppression
65	100Ω	1	66-1104340	BW-1-100	Br.-Blk.-Br. " "

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA			INSTALLATION NOTES
				PACKARD (PHILCO) PART No.	MALLORY PART No.	RADIART PART No.	
66	Interrupter	6.3	115~	83-0026	859	5326P	

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA			INSTALLATION NOTES
	PRI.	SEC. 1	SEC. 2	SEC. 3	PACKARD (PHILCO) PART No.	STANCOR PART No.	THORDARSON PART No.	
67	6.0V DC @ 2.0A	500V CT @ .053A			65-0358	P-4062*	T22R20*	*Drill new mounting holes.

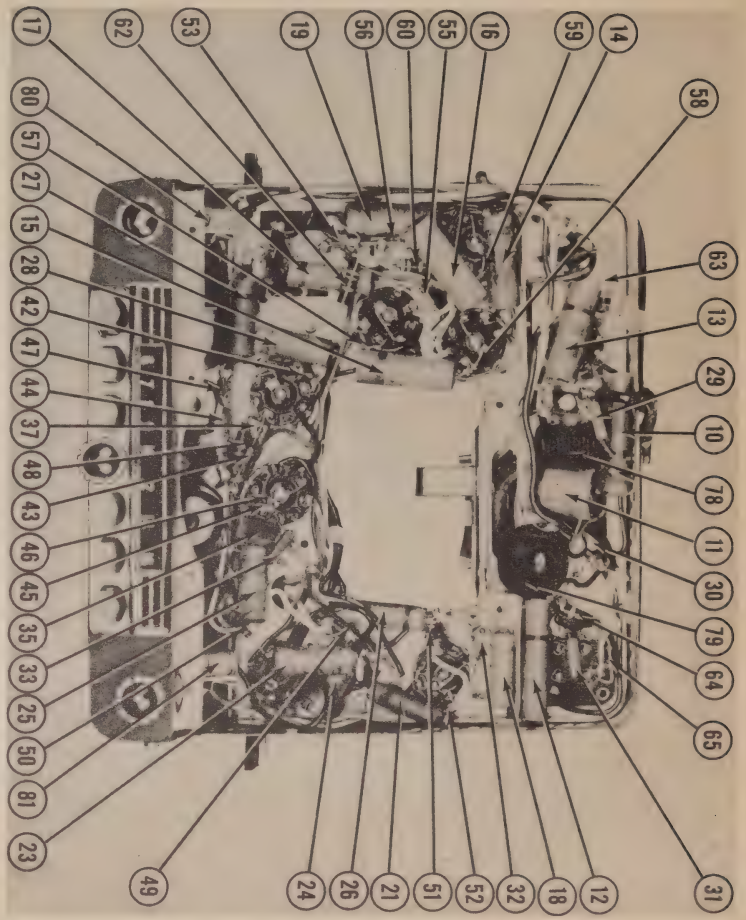
TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		PACKARD (PHILCO) PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
68	9000Ω CT	3.2Ω	700Ω CT	.3Ω	65-0409	A-3856*	T22S47*		*Drill new mounting holes.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	FIELD RES.	VC IMP.	PACKARD (PHILCO) PART No.	JENSEN PART No.		
69	3.5Ω	3.2Ω	73-0066			
	CONE DIA	VC DIA.				
70	6-7/8"	1"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

CHASSIS—BOTTOM VIEW



VOLTAGE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	7A7	0V.	135V.DC	75V.DC	0V.	0V.	-1V.DC	2.9V.DC	5.7V.DC
2	7B8	0V.	200V.DC	115V.DC	-2.8V.DC	75V.DC	-1V.DC	2V.DC	5.7V.DC
3	7A7	0V.	200V.DC	75V.DC	0V.	0V.	-1V.DC	2.7V.DC	5.7V.DC
4	7B6	0V.	88V.DC	-.4V.DC	.2V.DC	-.5V.DC	-.5V.DC	.2V.DC	5.7V.DC
5	7A4	0V.	115V.DC	200V.DC	0V.	0V.	7V.DC	97V.DC	5.7V.DC
6	7C5	0V.	215V.DC	200V.DC	0V.	0V.	0V.	13V.DC	5.7V.DC
7	7C5	0V.	215V.DC	200V.DC	0V.	0V.	0V.	13V.DC	5.7V.DC
8	7Y4	0V.	0V.	250V.AC	0V.	0V.	250V.AC	220V.DC	5.7V.DC

RESISTANCE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
1	7A7	0Ω	130KΩ	150KΩ	0Ω	.0Ω	1.3MEG	650Ω	.1Ω
2	7B8	0Ω	120KΩ	150KΩ	90KΩ	150KΩ	1.3MEG	180Ω	.1Ω
3	7A7	0Ω	120KΩ	150KΩ	0Ω	0Ω	1.2MEG	320Ω	.1Ω
4	7B6	0Ω	340KΩ	10MEG	380Ω	380KΩ	380KΩ	460Ω	.1Ω
5	7A4	0Ω	340KΩ	120KΩ	INF.	INF.	10MEG	210KΩ	.1Ω
6	7C5	0Ω	120KΩ	120KΩ	INF.	INF.	460KΩ	300Ω	.1Ω
7	7C5	0Ω	120KΩ	120KΩ	INF.	INF.	440KΩ	300Ω	.1Ω
8	7Y4	0Ω	INF.	250Ω	INF.	INF.	230Ω	120KΩ	.1Ω

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by connecting negative (-) 3 volts to the AVC line.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Battery voltage maintained at 6.3 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA PACKARD (PHILCO) PART No.	REPLACEMENT DATA MEISSNER PART No.
71	Ant. Choke Coil		1.2Ω	65-0378	
72	Ant. Coil		12Ω	65-0349	
73	RF Coil		11.5Ω	65-0359	
74	Osc. Coil		4.5Ω	65-0350	
75	Osc. Tracking Coil		12.5Ω	65-0351	
76	Input IF	53Ω	53Ω	65-0352	16-6652
77	Output IF	60Ω		65-0410	
78	A. Choke		0Ω	32-1644	
79	Vibrator Choke		0Ω	65-0151	

PUSHBUTTON ADJUSTMENTS

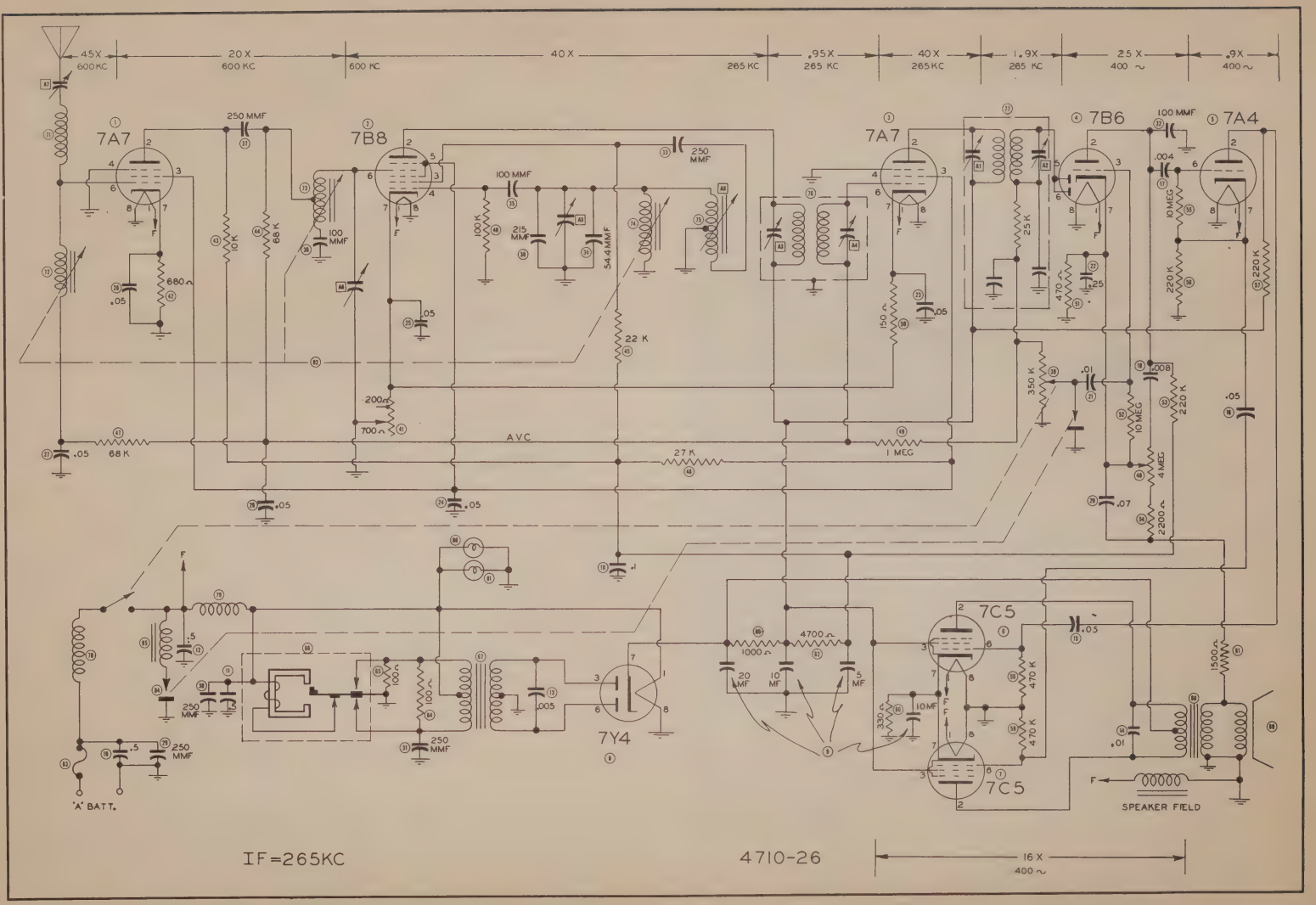
1. Turn receiver on and allow it to warm up for about 15 minutes.
2. Push in any button and tune in desired station by turning the knurled knob in the button.
3. Check accuracy of setting by detuning with manual tuning control and retuning with pushbutton. If setting is off retune with knurled knob in the button.
4. To set up the remaining buttons follow the same procedure outlined above.

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA PACKARD (PHILCO) PART No.		INSTALLATION NOTES
80	Bayonet	6.3	0.25	Blue	34-2064		Type 44
81	"	"	"	"	"		"

MISCELLANEOUS

ITEM No.	PART NAME	PACKARD (PHILCO) PART No.	NOTES
82	Tuner Unit	77-0891	
83	Fuse	45-2559	SFE-14
A5	Trimmer Cap.	63-0055	Osc. Adj.
A6	" "	63-0052	RF Adj.
A7	" "	31-6472	Ant. Adj.
	Dial	55-1350	
84	Muting and Solenoid Sw.	85-0125	Part of 77-0891
85	Solenoid	65-0360	


45 X
600 KC
20 X
600 KC
600 KC
40 X
265 KC
.95X
265 KC
40 X
265 KC
1.9X
265 KC
25 X
400 ~
.9X
400 ~
7A7
7B8
7A7
7B6
7A4
7C5
7C5
7Y4
250 MMF
100 MMF
680 Ω
10 K
68 K
100 MMF
200 Ω
700 Ω
.05
68 K
AVC
100 K
215 MMF
544 MMF
22 K
27 K
150 Ω
1 MEG
350 K
25 K
470 Ω
.25
.01
.008
10 MEG
220 K
.004
10 MEG
220 K
220 K
.05
4 MEG
2200 Ω
.07
4700 Ω
1000 Ω
20 MF
10 MF
.5 MF
330 Ω
10 MF
470 K
470 K
1500 Ω
.01
.005
.5
250 MMF
250 MMF
250 MMF
100 Ω
'A' BATT.
SPEAKER FIELD
IF=265KC
4710-26
16 X
400 ~

PONTIAC MODEL 984170

TRADE NAME	Pontiac, Model 984170
SUPPLIER	Pontiac Motors Div., General Motors, Pontiac, Michigan
TYPE SET	Battery Operated Custom Built Automotive Superheterodyne with Pushbutton Tuning
TUBES (FIVE)	Types, 7Q7 Converter, 7A7 IF Amp., 7B6 Det.-AVC-AF, 7C5 Power Output, 0Z4G Rectifier.
POWER SUPPLY	6 Volt Storage Battery
TUNING RANGE—BROADCAST	540-1610KC RATING 5.2 Amps. @ 6.3 Volts DC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. After receiver is installed in car readjust A7 for maximum volume on a weak station near 1400KC.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 6 (grid) of 7Q7. Low side to chassis.	260KC	Tuning slugs out completely.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
2	60 MMFD.	High side to ant. receptacle. Low side to chassis.	1610KC	"	"	A5	" " " "
3	60 MMFD.	"	1400KC	Tune for maximum output.	"	A6,A7.	" " " "

DISASSEMBLY INSTRUCTIONS

1. Turn receiver on and allow it to warm up for about 15 minutes.
2. Loosen each pushbutton 1/2 turn.
3. Tune in desired station with manual tuning control.
4. Hold manual control to prevent detuning and push in completely any button.
5. Release pushbutton and tighten firmly.
6. Check accuracy of setting by detuning with manual control and retuning with pushbutton. If setting is off repeat Steps 2, 3, 4 and 5.
7. To set up the remaining buttons follow the same procedure as outlined above.

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PARTS LIST AND DESCRIPTIONS

PONTIAC MODEL 984170

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: UMS PONTIAC PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	7A7	7A7	8AL	
2	IF Amp.	7A7	7A7	8V	
3	Det.-AVC-AF	7B6	7B6	8W	
4	Power Output	7C5	7C5	6AA	
5	Rectifier	024G	024G	4BG	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: UMS PONTIAC PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6A	10	350	1213868	AF32K4A	UP4CJ5	FP328	DY-310	EL-153	■ Filter
B	15	300							▲ "
C	20	25							Cath. Bypass
7	.5	100	7240248						Hash Filter
8	.5	100	7240248						" "
9	.004	1500	1213854	1684-004	MD16D4	OW343	TM-16-004	TR-24	Buffer
10	.005	600	7230912	684-005	DT6D5	TP408	TM-6-005	TC-25	Output Plate Bypass
11	.02	600	1212099	684-02	DT6S2	TP412	TM-6-02	TC-12	Audio Coupling
12	.004	600	1212098	684-004	DT6D4	TP407	TM-6-004	TC-24	Tone Compensation
13	.005	600	7230912	684-005	DT6D5	TP408	TM-6-005	TC-25	Audio Coupling
14	.05	600	7230592	684-05	DT6S5	TP415	TM-6-05	TC-15	Screen Bypass
15	.05	600	7230592	684-05	DT6S5	TP415	TM-6-05	TC-15	AVC Filter
16	.004	600	1212098	684-004	DT6S4	TP407	TM-6-004	TC-24	Fixed Padder
17	500	500	1207636	1468-0005	5W5T5	MC245	MO.5-35	1FM-35	Hash Filter
18	250	500	1209055	1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Osc. Grid Capacitor
19	265		1216540						Fixed Trimmer Cer.
20	35	500	1214949						" "

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: UMS PONTIAC PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
21	350KΩ	1	1216541				Volume Control & On-Off Switch and Tone Switch*

*This is a dual unit operated by concentric shafts.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: UMS PONTIAC PART No.	IRC PART No.	IDENTIFICATION CODES
22	47KΩ	½	1214533	BTS-47K	Yl.-Vi.-Or. Oscillator Grid
23	33KΩ	1	7242447	BTA-33K	Or.-Or.-Or. Screen Dropping
24	2.2 Meg.	½	1214563	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
25	15 Meg.	½	1213343	BTS-15 Meg.	Br.-Grn.-Blue AF Grid
26	1 Meg.	½	1209885	BTS-1 Meg.	Br.-Blk.-Grn. AF Plate Load
27	150KΩ	½	1211163	BTS-150K	Br.-Grn.-Yl. Output Grid
28	270Ω	1	1213846	BW-1-270	Red-Vi.-Br. Output Cathode
29	33KΩ	½	1213845	BTS-33K	Or.-Or.-Or.- Tone Compensation
30	15KΩ	½	1211089	BTS-15K	Br.-Grn.-Or. Tone Compensation
31	1800Ω	2	1214573	BT-2-1800	Br.-Gray-Red Filter
32	150Ω	1	1211005	BW-1-150	Br.-Grn.-Br. Hash Suppression

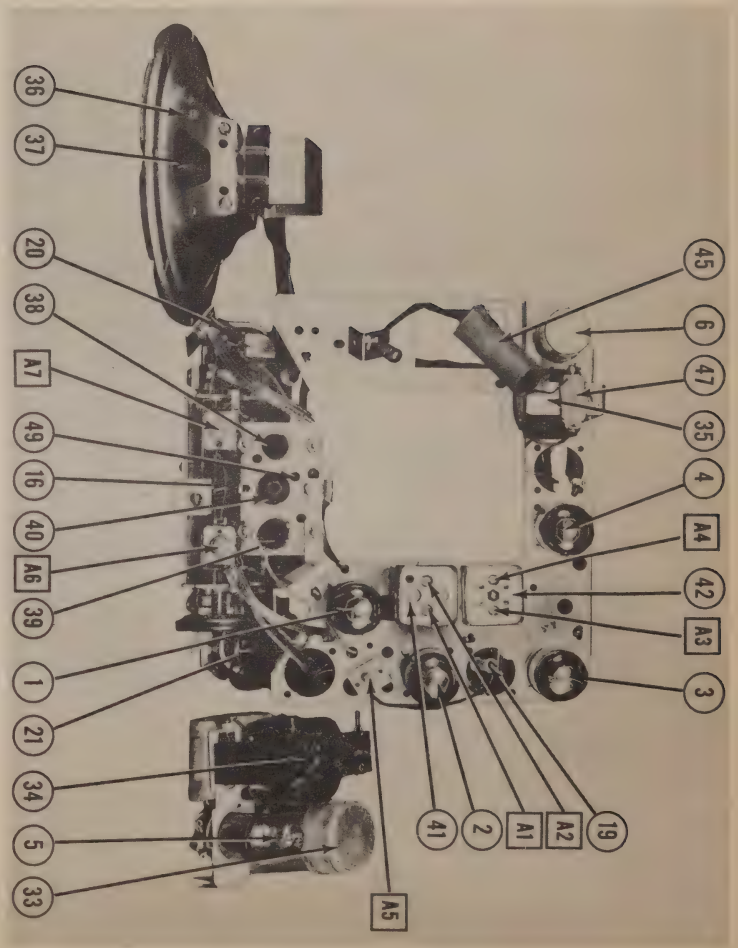
VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA: UMS PONTIAC PART No.	MALLORY PART No.	RADIART PART No.	INSTALLATION NOTES
33	Interrupter	6.3	115 ∿	8638	870	5335	

TRANSFORMER (VIBRATOR)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: UMS PONTIAC PART No.	STANCOR PART No.	THORDARSON PART No.	
34	6.3V DC @ 3.4A	540V CT @ .05A			1214391			

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		UMS PONTIAC PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
35	5200Ω	3.8Ω	580Ω	1.2Ω	1215918	A-3877**	T22S46**		Drill new mounting holes.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			UMS PONTIAC PART No.	JENSEN PART No.		
36A	FIELD	VC IMP.		ST-110†		†Trim flange
B	PM	3.8Ω	1217417	Mod. P6-V		
			1214389			‡Alternate electro-dynamic speaker
	CONE DIA.	VC DIA.				
37	6"	3/4"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

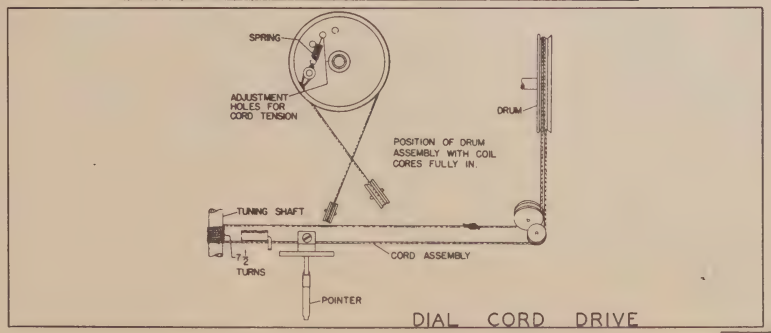
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	UMS PONTIAC PART No.	MEISSNER PART No.	
38	Ant. Coil		9.5Ω	1216539		Items 38, 39 & 40 are ganged, slug tuned and obtained as complete assembly
39	Grid Coil		10Ω	1216539		
40	Osc. Coil	.3Ω	4Ω	1216539		
41	Input IF	53Ω	53Ω	1215916	16-6652	
42	Output IF	75Ω		1215917		
43	Hash Choke		0Ω	1213663		
44	Fil. Choke		0Ω	1214385		
45	Spark Choke		0Ω	1217193		

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					UMS PONTIAC PART No.		
46	Bayonet	6-8	0.25	Blue	187189		Type 44

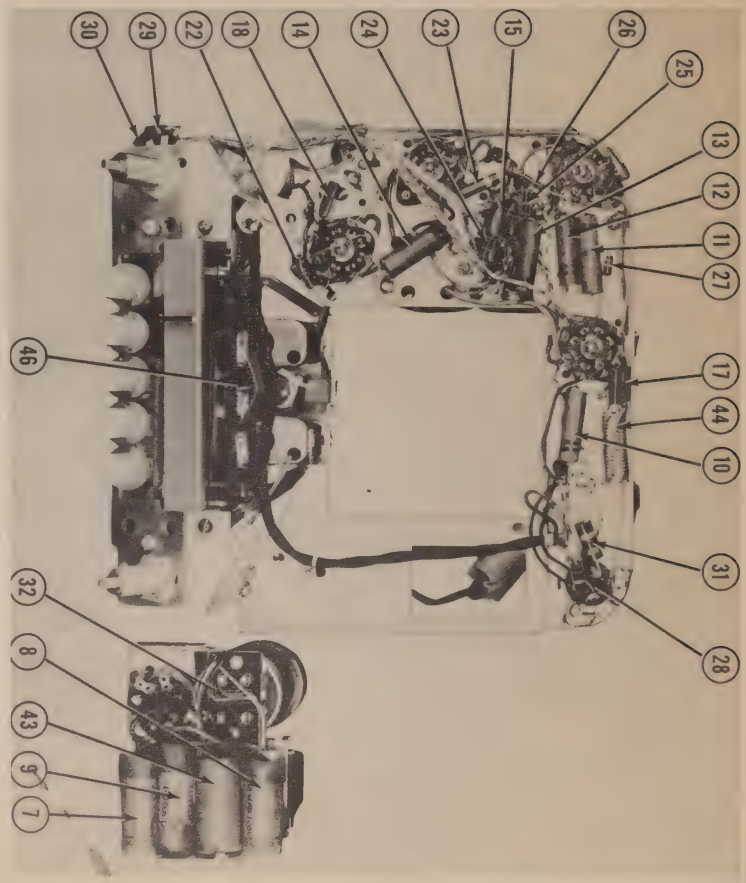
MISCELLANEOUS

ITEM No.	PART NAME	UMS PONTIAC PART No.	NOTES
47	Spark Plate	1212278	225 MMF
48	Fuse	147684	9 Amp. - SFE9
49	Tuning Assby.	1216538	Mechanical Portion Only
	Dial Glass	1216537	
	Dial Pointer	1216536	

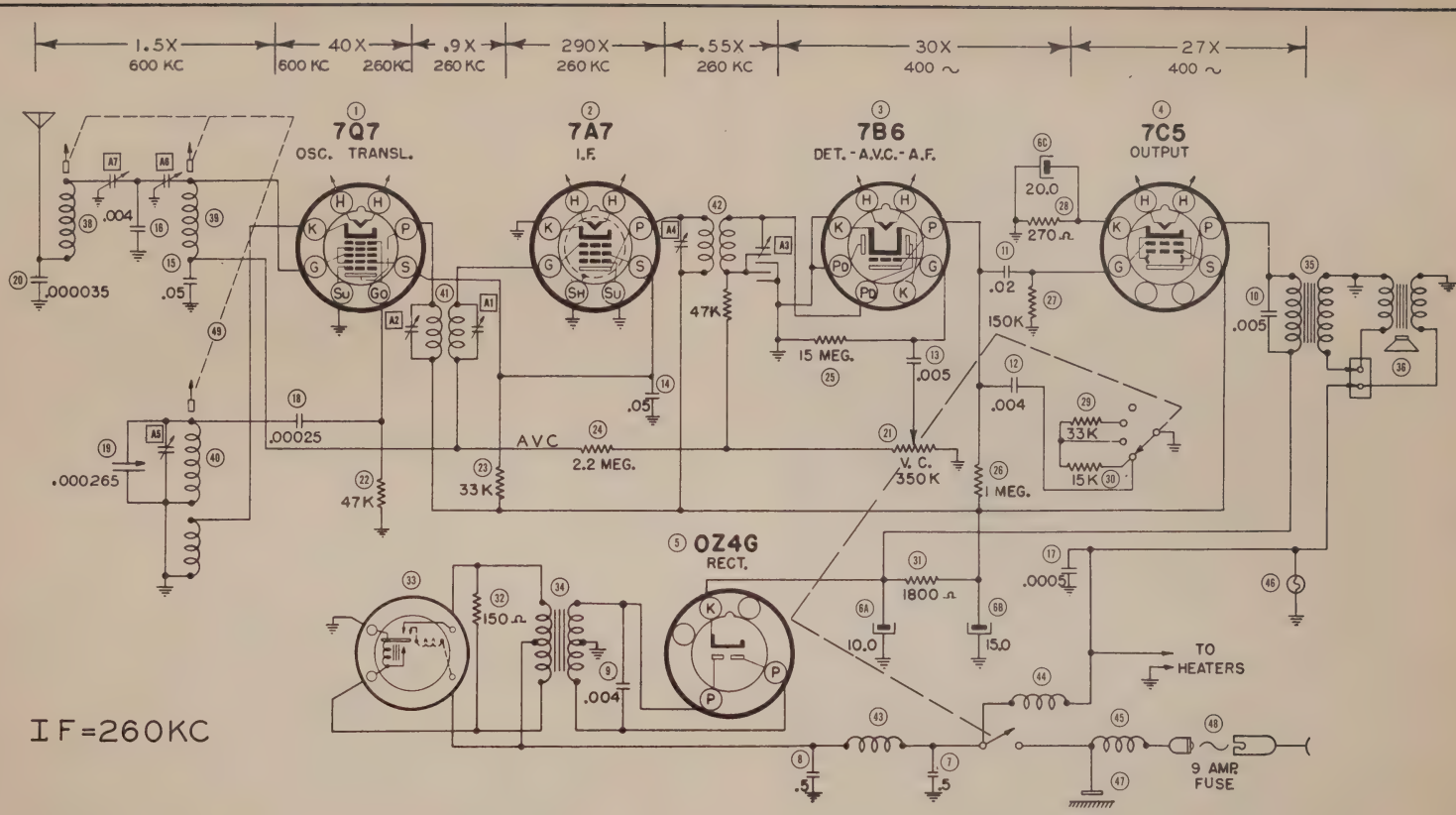


DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



PONTIAC MODEL 9841



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7Q7	0V.	222V.DC	65V.DC	-4 V.DC	0V.	-8V DC	0V.	6.2V.DC
2	7A7	0V.	225V.DC	65V.DC	0V.	0V.	-8V DC	0V.	6.2V.DC
3	7B6	0V.	70V.DC	-8V.DC	0V.	-2V.DC	0V	0V.	6.2V.DC
4	7C5	0V.	232V.DC	225V.DC	0V.	0V.	0V	11V.DC	6.2V.DC
5	0Z4G	0V.	0V.	295V.AC	0V.	295V.AC	6.2V DC	0V.	250V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7Q7	0 Ω	150KΩ	180KΩ	47 KΩ	0 Ω	2.5MEG.	.2 Ω	.3Ω
2	7A7	0 Ω	150KΩ	180 KΩ	0 Ω	0 Ω	2.5MEG	0 Ω	.3Ω
3	7B6	0 Ω	1.2MEG.	1.5MEG.	0 Ω	390 KΩ	0 Ω	0 Ω	.3Ω
4	7C5	0 Ω	150 KΩ	150 KΩ	INF.	INF.	140 KΩ	250Ω	.3Ω
5	0Z4G	INF.	INF.	300Ω	INF.	270Ω	.3Ω	INF.	150KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

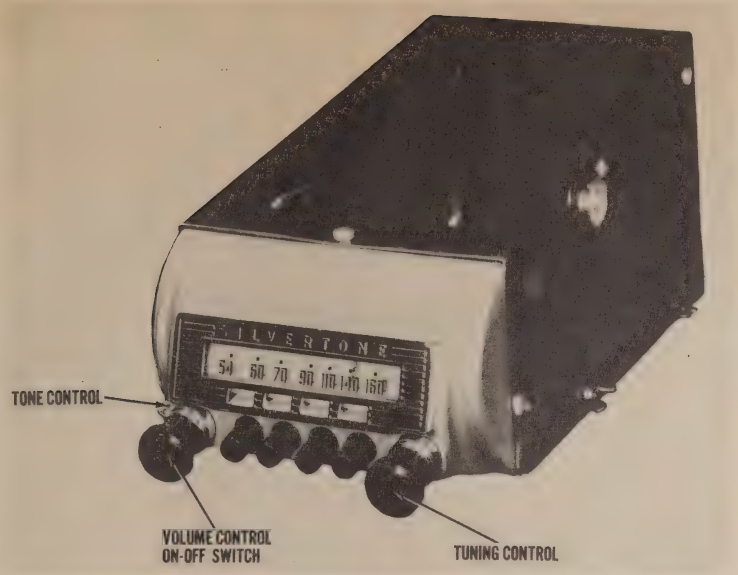
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-27

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by connecting negative (-) 3 volts to the AVC line.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Battery voltage maintained at 6.3 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

SILVERTONE
MODEL 6285 A (CH. 101.666-1B)



SILVERTONE
MODEL 6285 A (CH. 101.666-1B)

SILVERTONE MODEL 6285A

TRADE NAME	Silvertone, Model 6285A (Ch. 101.666-1B)
SUPPLIER	Sears, Roebuck & Co., 925 S. Homan St., Chicago, Ill.
TYPE SET	Battery Operated Universal Automotive Superheterodyne with Pushbutton Tuning
TUBES (SIX)	Types, 7A7 RF Amp., 7Q7 Converter, 7A7 IF Amp., 7B6 Det.-AVC-AF, 7C5 Power Output, 0Z4G Rectifier.
POWER SUPPLY	6 Volt Storage Battery
TUNING RANGE—BROADCAST	540-1610KC · RATING 5.6 Amp. @ 6.3 Volts DC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. After receiver is installed in car adjust A7 for maximum volume on a weak station near 1400KC.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 6 (grid) 7Q7. Low side to chassis.	260KC	Tuning slugs in completely.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
2	50MMFD.	High side to ant. receptacle. Low side to chassis.	1610KC	Tuning slugs out completely	"	A5,A6, A7.	" " " "
3	50MMFD.	"	1600KC	Tune for maximum output.	"		Set pointer to 1600KC reference mark.
4	50MMFD.	"	1400KC	1400KC	"	A8,A9, A10	Adjust for maximum output. Repeat Steps 2 and 4 until no further increase can be obtained.

DISASSEMBLY INSTRUCTIONS

1. Turn receiver on and allow it to warm up for about 15 minutes.
2. Loosen each button a bout 1/2 inch counter-clockwise.
3. Push in completely any button and hold in.
4. Tune in accurately with manual tuning control lst station desired to be set up and gently tighten pushbutton before releasing it.
5. Release button and tighten firmly.
6. To check accuracy of setting detune with manual tuning control and retune with push-button. If setting is off repeat Steps 2, 3, 4, and 5.
7. To set up the remaining buttons follow the same procedure as outlined above.

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PARTS LIST AND DESCRIPTIONS

SILVERTONE MODEL 62358

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	7A7	7A7	8V	
2	Converter	7Q7	7Q7	8AL	
3	IF Amp.	7A7	7A7	8V	
4	Det.-AVC-AF	7B6	7B6	8W	
5	Power Output	7C5	7C5	6AA	
6	Rectifier	0Z4G	0Z4G	4R	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SILVERTONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	10	350	R45167		UP4CJ5	FP328	DY-310	EL-153	■ Filter
B	15	350							▲ "
C	20	25							Cath. Bypass
8	.5	100							Hash Filter
9	.5	100							" "
10	.004	1500		1684-004	MD16D4	OW343	TM-16-004	TR-24	Buffer
11	.007	600		684-0075		TP445			Output Plate Bypass
12	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	Audio Coupling
13	.007	600		684-0075		TP445			Tone Compensation
14	.005	400		484-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
15	.01	120		484-01	DT4S1	TP421	S-4-01	TC-11	Tone Compensation
16	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	IF Cath. Bypass
17	.25	200		484-.25	DT4P25	TP430	S-4-25	TC-2	Screen Bypass
18	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
19	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	" "
20	250	500		1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Audio Plate Bypass
21	50	500		1468-00005	5W5S5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
22	300	500		1468-0003	5W5T3	MC241	MO.5-33	1FM-33	Fixed Trimmer
23	10	500		1468-00001	5W5Q1	MC215	MO.5-41	1FM-41	RF Coupling

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SILVERTONE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
24A	300KΩ	1	R45139				Volume Control & SW - See Note
B	500KΩ	1					Tone Control - See Note

RESISTORS

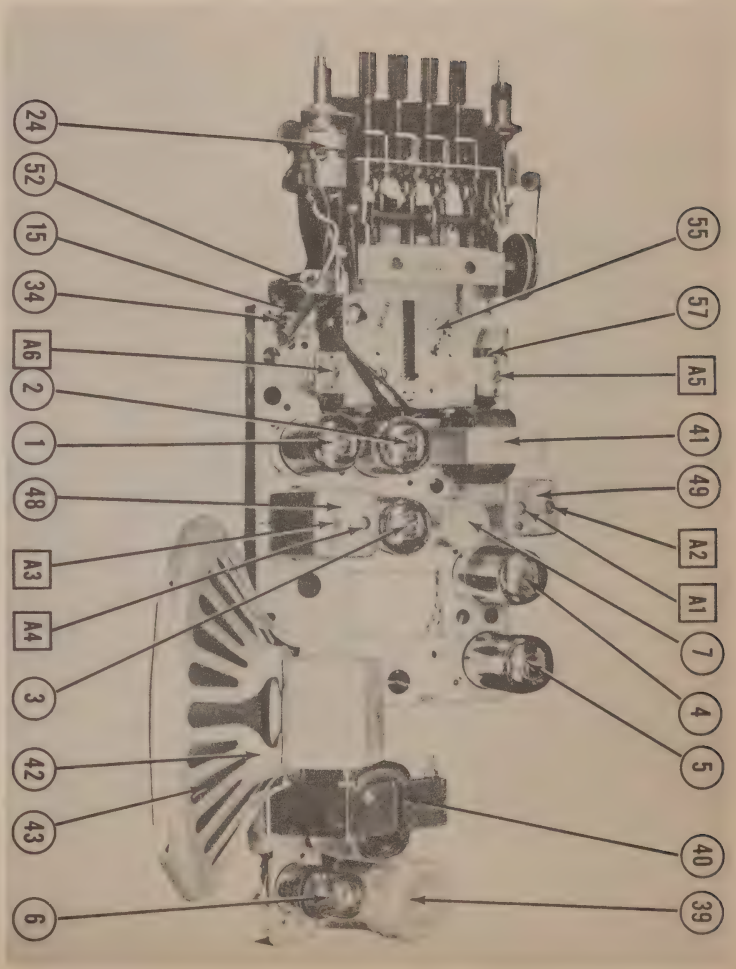
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SILVERTONE PART No.	IRC PART No.	IDENTIFICATION CODES
25	150Ω	1		BW-1-150	Br.-Grn.-Br. Hash Suppression
26	22KΩ	½		BTS-22K	Red-Red-Or. RF Plate Load
27	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Converter Grid
28	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Oscillator Grid
29	22KΩ	1		BTA-22K	Red-Red-Or. Screen Dropping
30	3900Ω	½		BTS-3900	Or.-White-Red IF Cathode
31	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
32	15 Meg.	½		BTS-15 Meg.	Br.-Grn.-Blue AF Grid
33	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AF Plate Load
34	68KΩ	½		BTS-68K	Blue-Gray-Or. Tone Compensation
35	150KΩ	½		BTS-150K	Br.-Grn.-Yl. Output Grid
36	270Ω	1		BW-1-270	Red-Vi.-Br. Output Cathode
37	2700Ω	1		BTA-2700	Red-Vi.-Red Filter
38	56Ω	½		BW-½-56	Grn.-Blue-Blk. Hash Suppression

Note-This is a dual control and switch operated by concentric shafts.

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA: SILVERTONE PART No.	MALLORY PART No.	RADIART PART No.	INSTALLATION NOTES
39	Interrupter	6.3	115 ∿	R45160	870	5335	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SILVERTONE PART No.	STANCOR PART No.	THORDARSON PART No.	
40	6.3V DC @ 3.7A	600V CT @ .052A			R45162			

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SILVERTONE PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
41	5200Ω	3.7Ω	580Ω	.65Ω	R62510	A-3877*	T22S46*		*Drill new mounting holes.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	FIELD	VC IMP.	SILVERTONE PART No.	JENSEN PART No.		
42A B	PM	3.7Ω	R61206 R60976			Alternate electro-dynamic speaker.
	CONE DIA.	VC DIA.				
43	6-3/4"	11/16"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

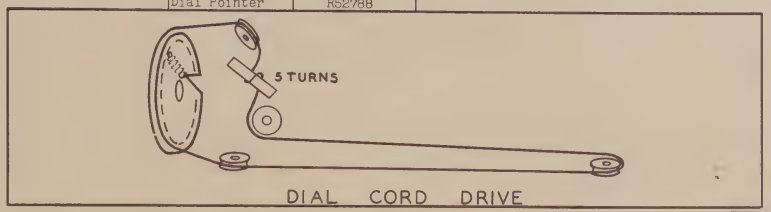
ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	SILVERTONE PART No.	MEISSNER PART No.	
44	Ant. Choke Coil		5Ω	R48820		
45	Ant. Coil		9Ω	R61575		Items 45, 46, & 47 are ganged, slug tuned, and obtained as an assembly.
46	RF Coil		9Ω	R61575		
47	Osc. Coil	.3Ω	5.5Ω	R61575		
48	Input IF	38Ω	38Ω	R45168S	16-6652	
49	Output IF	53Ω		R45169S		
50	Hash Choke		0Ω	R9044E		
51	Spark Choke		0Ω	R5220CH		

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					SILVERTONE PART No.		
52	Bayonet	6-8	0.25	Blue	R-14914		Type 44

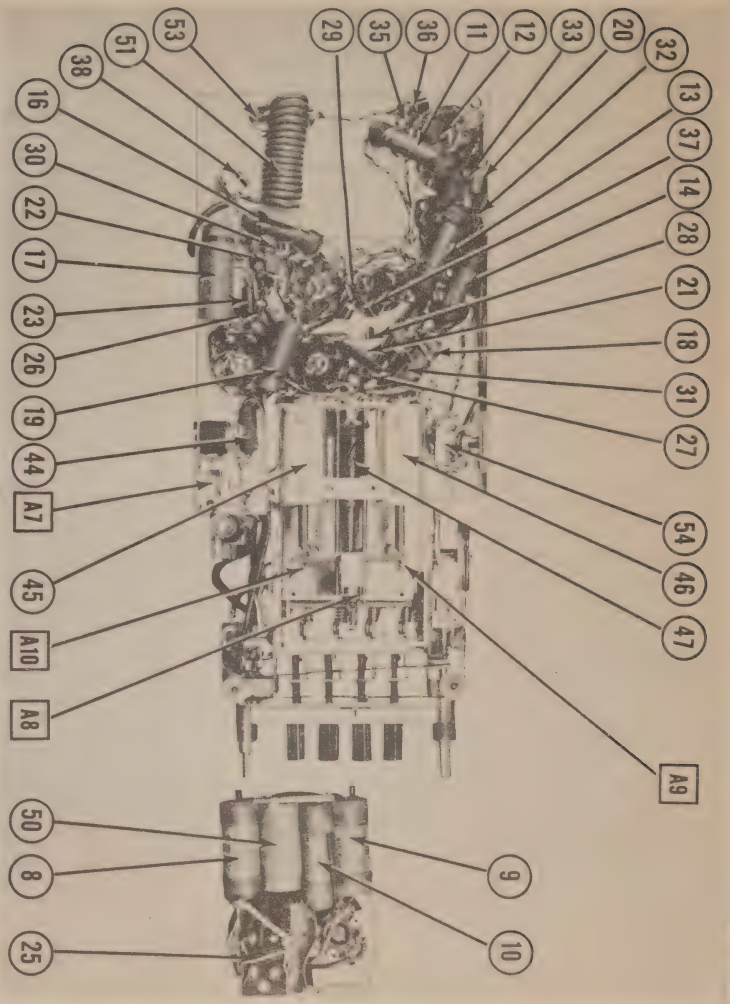
MISCELLANEOUS

ITEM No.	PART NAME	SILVERTONE PART No.	NOTES
53	Spark Plate	R42271	
54	Dual Capacitor		250 MMF
55	Fuse	R10292	15 Amps - 25 Volts
56	Tuner Assembly	R61574	
57	Capacitor	R45851	Temperature Compensating
	Dial Scale	R52792	
	Dial Pointer	R52788	



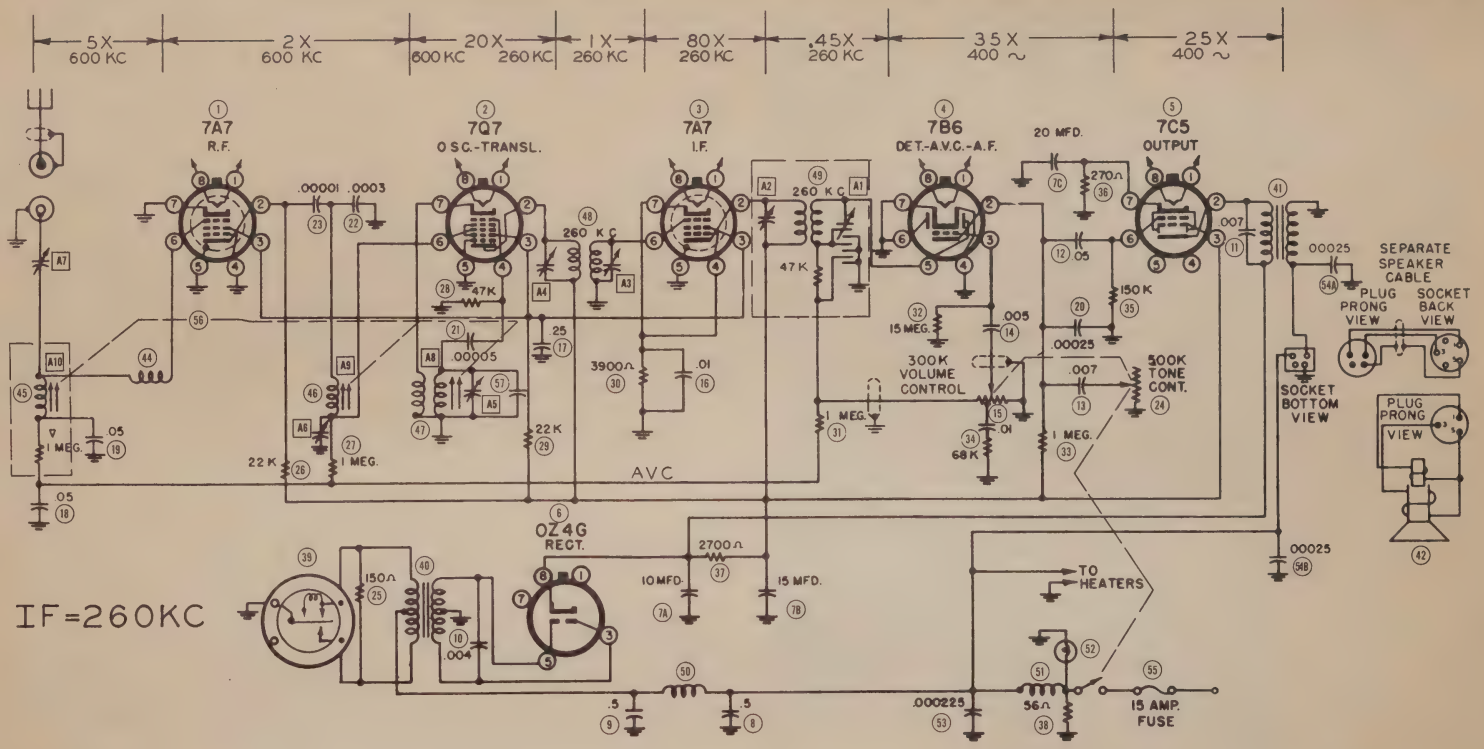
DIAL CORD DRIVE

CHASSIS—BOTTOM VIEW



SILVERTONE MODEL 6285A

SILVERTONE MODEL 6285A



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7A7	6.2V.DC	82V.DC	70V.DC	0V.	0V.	+2V.DC	0V.	0V.
2	7Q7	6.2V.DC	212V.DC	70V.DC	-.9V.DC	0V.	+2V.DC	0V.	0V.
3	7A7	6.2V.DC	212V.DC	70V.DC	4.9V.DC	0V.	0V.	4.9V.DC	0V.
4	7B6	0V.	75V.DC	-9V.DC	0V.	-.5V.DC	0V.	0V.	6.2V.DC
5	7C5	0V.	233V.DC	212V.DC	0V.	0V.	0V.	10V.DC	6.2V.DC
6	0Z4G	0V.	0V.	305V.AC	0V.	305V.AC	6.2V.AC	0V.	250V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7A7	.3Ω	520 KΩ	520 KΩ	0Ω	0Ω	2.5 MEG	0Ω	0Ω
2	7Q7	.3Ω	500 KΩ	520 KΩ	45 KΩ	0Ω	2.5 MEG	.2Ω	0Ω
3	7A7	.3Ω	500 KΩ	520 KΩ	3.8 KΩ	0Ω	35Ω	3.8 KΩ	0Ω
4	7B6	0Ω	1.5 MEG.	1.5 MEG.	0Ω	320 KΩ	0Ω	0Ω	.3Ω
5	7C5	0Ω	500 KΩ	500 KΩ	INF.	INF.	150 KΩ	250Ω	.3Ω
6	0Z4G	INF.	INF.	320Ω	INF.	280Ω	.3Ω	INF.	500 KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

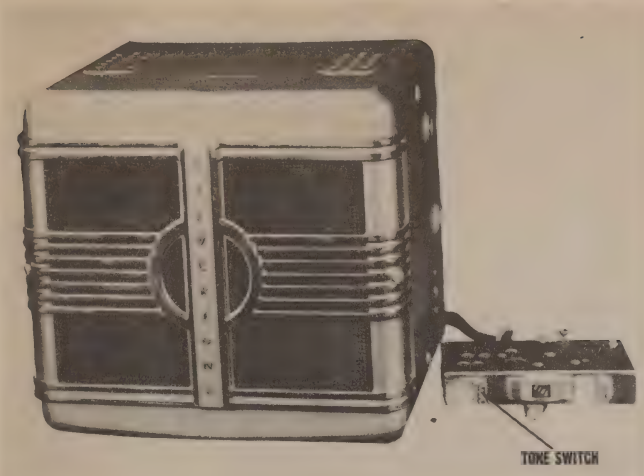
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

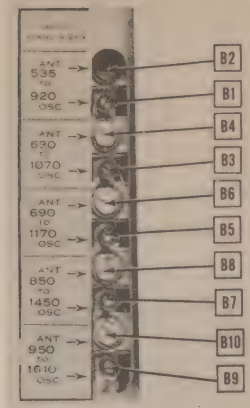
4710-28

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by connecting negative (-) 3 volts to the AVC line.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Battery voltage maintained at 6.3 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

SILVERTONE
MODEL 6290 (CH. 101.677 B)





SILVERTONE MODEL 6290

TRADE NAME	Silvertone, Model 6290 (Ch. 101.677B)
MANUFACTURER	Sears, Roebuck & Co., 925 S. Homan St., Chicago, Ill.
TYPE SET	Battery Operated Universal Automotive Superheterodyne Receiver
TUBES (SIX)	Types, 6K7GT RF Amp., 6A8GT Converter, 6SK7GT IF Amp., 6SQ7GT Det.-AVC-AF, 6V6GT Power Output, 0Z4G Rectifier.
POWER SUPPLY	6 Volt Storage Battery
TUNING RANGE—BROADCAST	540-1610KC RATING 5.8 Amp. @ 6.3 Volts DC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting. After receiver has been installed in car adjust A8 for maximum volume on a weak station near 1400KC.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to grid cap. of 6A8. Low side to chassis.	455KC	Tuning slugs fully closed.	Across voice coil	A1,A2, A3, A4.	Adjust for maximum output.
2	.1 MFD.	High side to grid cap. of 6K7. Low side to chassis.	"	"	"	A5	Adjust for minimum output.
3	50 MMF.	High side to ext. ant. Low side to chassis.	1610KC	Tuning slugs fully open.	"	A6,A7, A8	Adjust for maximum output.
4	50 MMF.	"	2520KC	"	"	A9	Adjust for minimum output.
5	50 MMF.	"	1410KC	Tune for maximum output.	"	A10,A11, A12	Adjust for maximum output.
6	50 MMF.	"	600KC	"	"	A13	Rock tuning control and adjust for maximum output. Repeat steps 3 to 6 until no further improvement can be made.

PUSHBUTTON ADJUSTMENTS

Ranges of pushbuttons are as follows: 540-920KC, 630-1070KC, 690-1170KC, 850-1450KC, 950-1600KC.

1. Turn on receiver and allow it to warm up for about 15 minutes.
2. Remove the two screws holding the front grille, exposing the adjusting screws.
3. Operate the pushbutton until receiver is set for manual tuning. Check to see that manual dial is illuminated. If it is not, remove the pushbutton unit cable from its receptacle. Operate pushbutton until the "Dial" tab comes into view. Replace cable in its receptacle. Unit is now in synchronization.
4. Make a list of desired stations arranged in order from low to high frequency making sure each will fall within range of button to be used.
5. Tune in desired station with manual control and note program. Press button until "#1" tab comes into view.
6. Adjust B1 to tune in desired station.
7. Adjust B2 for maximum volume.
8. Follow same procedure for setting remaining buttons adjusting B3, B5, B7, B9 to tune in desired stations and B4, B6, B8, B10 for maximum volume.
9. Repeat all adjustments for optimum performance.
10. Replace front grille.

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PARTS LIST AND DESCRIPTIONS

SILVERTONE M T&L 2226 (Ch. 1041,3725B)

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.		6K7GT	7R	
2	Converter		6A8GT	8A	
3	IF Amp.		6SK7GT	8N	
4	Det.-AVC-AF		6SQ7GT	8Q	
5	Power Output		6V6GT	7AC	
6	Rectifier		0Z4G	4RG	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SILVERTONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	10	350		AF32K4A	UP4CJ5	FP328	DY-310	EL-153	■ Filter
B	15	300							▲ "
C	20	25							Cath. Bypass
8	.004	1500		1684-004	MD16D4	OW343	TM-16-004	TR-24	Buffer
9	.5	100							Hash Filter
10	.5	100							" "
11	.004	600		684-004	DT6D4	TP407	TM-6-004	TC-24	Output Plate Bypass
12	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	Audio Coupling
13	.005	400		484-005	DT6D5	TP408	TM-6-005	TC-25	" "
14	.01	120		484-01	DT4S1	TP421	S-4-01	TC-11	Tone Compensation
15	.005	400		484-005	DT6D5	TP408	TM-6-005	TC-25	" "
16	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
17	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Osc. Anode Coupling
18	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	RF Screen Bypass
19	.05	200		484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
20	.003	600		684-003	DT6D3	TP406	S-6-003	TC-23	Fixed Padder
21	250	500		1468-00025	5W5T25	MC240	MO.5-325	1FM-325	Output Grid Filter
22	25	500		1468-000025	5W5Q25	MC220	MO.5-425	MS-425	Fixed Trimmer
23	98								" " Cer.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SILVERTONE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
24	500KΩ	1	R42244				Volume Control & Switch

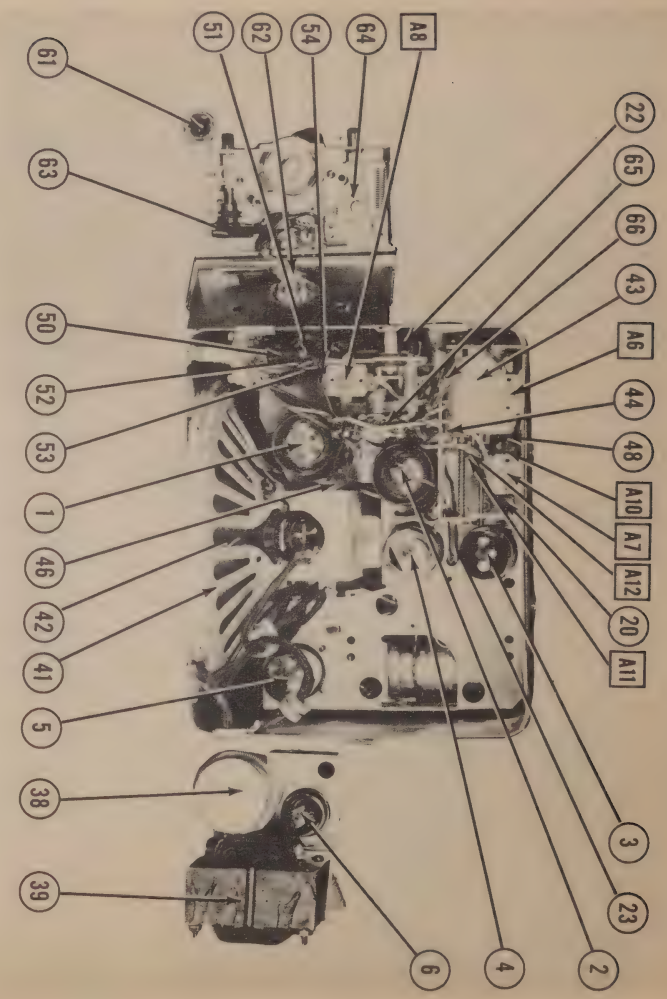
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SILVERTONE PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
25	1 Meg.	1/3		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
26	47KΩ	1		BTA-47K	Yl.-Vi.-Or. Screen Dropping
27	10KΩ	1/3		BTS-10K	Br.-Blk.-Or. RF Plate Load
28	22KΩ	1/2		BTS-22K	Red-Red-Or. Converter Anode Dropping
29	47KΩ	1/2		BTS-47K	Yl.-Vi.-Or. Oscillator Grid
30	1 Meg.	1/3		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
31	1 Meg.	1/3		BTS-1 Meg.	Br.-Blk.-Grn. AF Plate Load
32	15 Meg.	1/3		BTS-15 Meg.	Br.-Grn.-Blue AF Grid
33	68KΩ	1/3		BTS-68K	Blue-Gray-Or. Tone Compensation
34	150KΩ	1/3		BTS-150K	Br.-Grn.-Yl. Output Grid
35	270Ω	1		BW-1-270	Red-Vi.-Br. Output Cathode
36	2700Ω	1		BTA-2700	Red-Vi.-Red Filter
37	150Ω	1		BW-1-150	Br.-Grn.-Br. Hash Suppression

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA: SILVERTONE PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: RADIART PART No.	INSTALLATION NOTES
38	Interrupter	6.3	115 ~	R45160	870	5335	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SILVERTONE PART No.	STANCOR PART No.	THORDARSON PART No.	
39	6.3V DC @ 3.9A	620V CT @ .05A			R45100			

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SILVERTONE PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
40	5800Ω	3.8Ω	790Ω	.7Ω	R45079	A-3850*	T22846*		*Cut mounting tabs to duplicate original.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	FIELD	VC IMP.	SILVERTONE PART No.	JENSEN PART No.		
41A B	PM	3.8Ω	R61409 R45016			Alternate electro-dynamic speaker.
	CONE DIA.	VC DIA.				
42	6-3/4"	1"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	SILVERTONE PART No.	MEISSNER PART No.	
43	Preselector Coil		9Ω			Items 43, 44 and 48 are ganged, slug tuned and part of tuning assembly.
44	Ant. Coil (Manual)		10Ω			
45	Ant. Coil (PB)		2.5Ω	R45112		
46	Grid Filter Choke		5Ω	R46820		
47	RF Coil			R45206		
48	Osc. Shunt Coil (Man.)		19.5Ω			
49	Osc. Coil	6.5Ω	7.5Ω			
50	Osc. Shunt Coil (PB)		20Ω			
51	"		20Ω			
52	"		19.5Ω			
53	"		18.5Ω			
54	"		18Ω			
55	Wave Trap					Item 55 in same can with Item 47.
56	Input IF	8Ω	7Ω	R45018		
57	Output IF	32Ω		R45019		
58	Spark Choke		0Ω			
59	Hash Choke		0Ω			
60	" "		0Ω			Not used in all models.

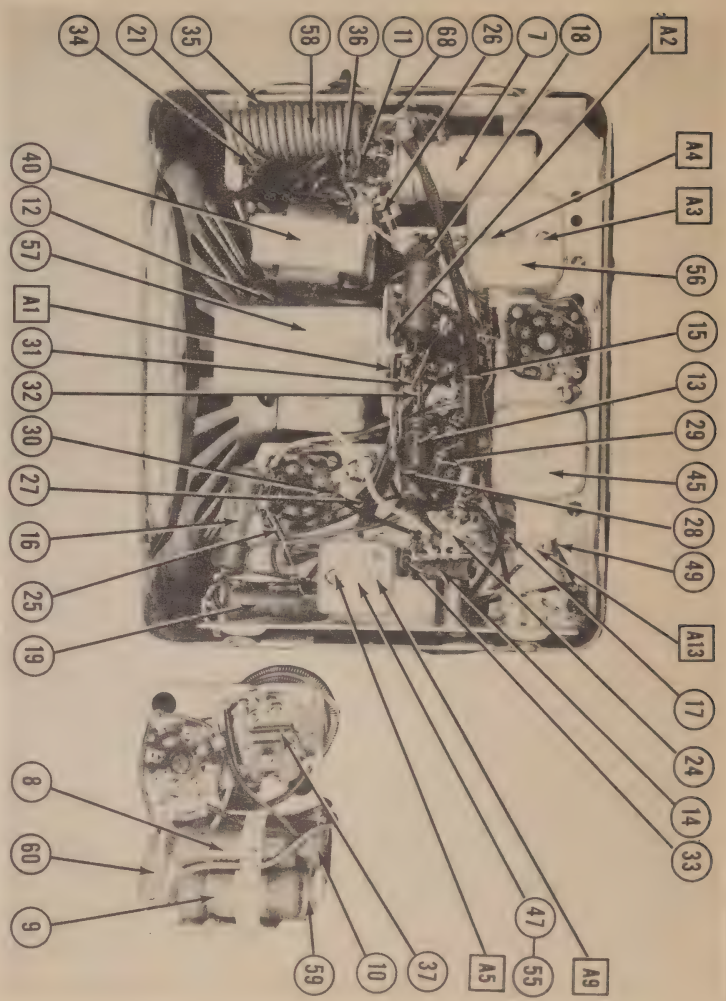
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					SILVERTONE PART No.		
61	Bayonet	7.5	0.2	Pink			Type 51
62	"	"	"	"			" "

MISCELLANEOUS

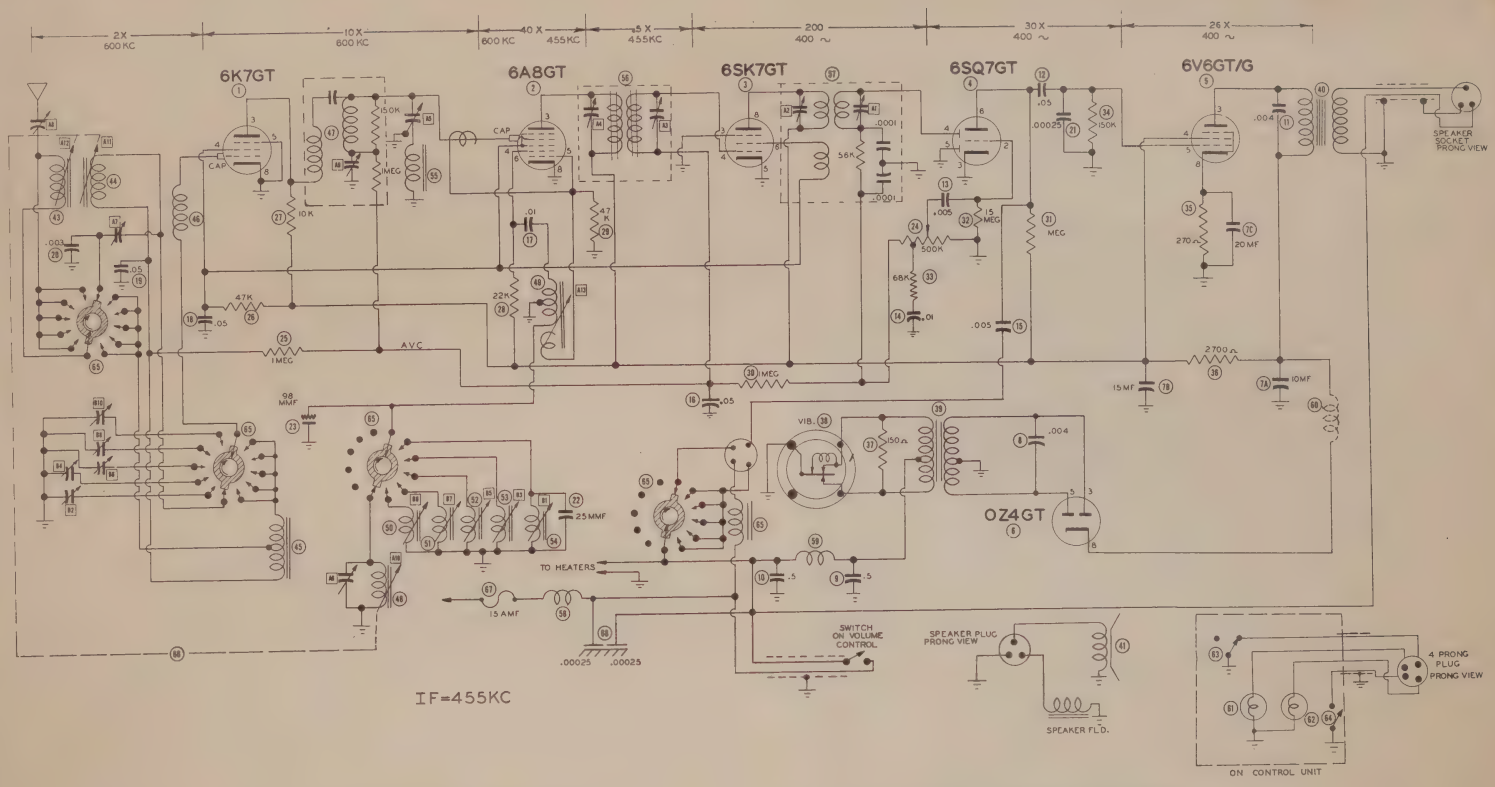
ITEM No.	PART NAME	SILVERTONE PART No.	NOTES
63	Tone Switch	R42482	
64	Switch	R42483	Station Selector
65	Relay & Sw. Assembly	R45205	
66	Tuner Assembly		
67	Fuse	R10292	15 Amp. - 25 Volt
68	Spark Capacitor		Dual .00025 MFD. Mica.

CHASSIS—BOTTOM VIEW



SILVERTONE MODEL 6290 (Ch. 101.677B)

SILVERTONE MODEL 6290 (Ch. 101.677B)



VOLTAGE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	CAP
1	6K7GT	0V.	0V.	177V.DC	52V.DC	0V.	-5V. DC	6.2V.DC	0V.	-5V.DC
2	6A8GT	0V.	0V.	215V.DC	52V.DC	-6V.DC	165V.DC	6.2V.DC	0V.	-5V.DC
3	6SK7GT	0V.	0V.	0V.	-5V.DC	0V.	52V.DC	6.2V.DC	215V.DC	
4	6SQ7GT	0V.	-5V.DC	0V.	-35V.DC	0V.	63V.DC	6.2V.DC	0V.	
5	6V6GT	0V.	6.2V.DC	240V.DC	215V.DC	0V.	0V.	0V.	10V.DC	
6	0Z4G	0V.	0V.	310V.AC	0V.	310V.AC	0V.	280 VDC	280V.DC	

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RESISTANCE READINGS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	CAP
1	6K7GT	0Ω	0Ω	140 KΩ	180 KΩ	0Ω	1.3MEG.	4Ω	0Ω	2.3 MEG.
2	6A8GT	0Ω	0Ω	130 KΩ	180 KΩ	45 KΩ	150 KΩ	4Ω	0Ω	2.3 MEG.
3	6SK7GT	0Ω	0Ω	0Ω	1.3MEG.	0Ω	180 KΩ	4Ω	130 KΩ	
4	6SQ7GT	0Ω	15 MEG.	0Ω	540 KΩ	0Ω	1.1MEG.	4Ω	0Ω	
5	6V6GT	0Ω	4Ω	130 KΩ	130 KΩ	150 KΩ	INF.	0Ω	270Ω	
6	0Z4G	INF.	INF.	280Ω	INF.	300Ω	INF.	130 KΩ	130 KΩ	

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-29

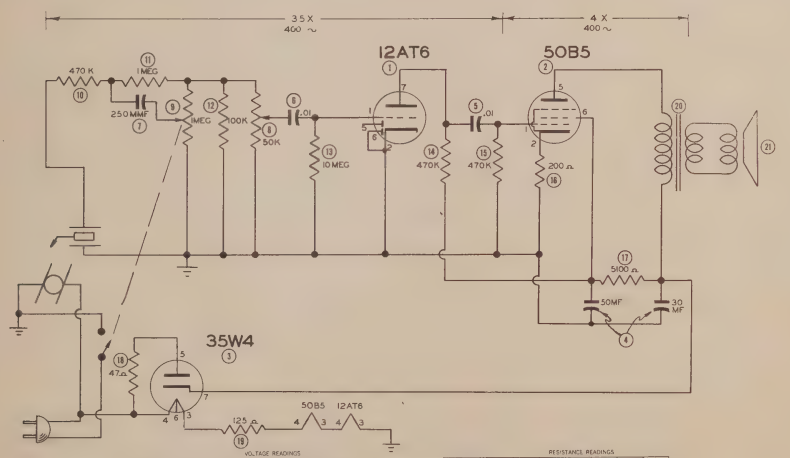
The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative by connecting negative (-) 3 volts to the AVC line.

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Battery voltage maintained at 6.3 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6 - Volume control at maximum, no signal applied for voltage measurements.

SKY-WEIGHT
MODEL 81B

SKY-WEIGHT MODEL 81B

TRADE NAME	Sky-Weight, Model 81B
MANUFACTURER	Continental Electronics Ltd., 252 Norman Ave., Brooklyn 22, N.Y.
TYPE SET	AC Operated Phonograph with 3 Tube Amplifier & Speaker
TUBES (THREE)	Types, 12AT6 AF Amp., 50B5 Power Output, 35W4 Rectifier
POWER SUPPLY	110-120 Volts AC RATING .220 Amp. @ 117 Volts



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12AT6	109VDC	0V.	0V.	1.3VAC	0V.	0V.	109VDC
2	50B5	0V.	7.9VDC	13VAC	6.2VAC	130VDC	117VDC	0V.
3	35W4	135VDC	0V.	82.4AC	117AC	118VAC	120VAC	37VDC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
1	12AT6	10 MEG	0 Ω	0 Ω	11 Ω	0 Ω	INF.	500 Ω
2	50B5	400 Ω	170 Ω	11 Ω	34 Ω	50 Ω	30 Ω	400 Ω
3	35W4	50 Ω	INF.	180 Ω	200 Ω	240 Ω	190 Ω	50 Ω

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS 4710-30

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: SKY-WEIGHT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	AF Amp.	12AT6	12AT6	7ET	
2	Power Output	50S5	50B5	7BZ	
3	Rectifier	35W4	35W4	5BJ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SKY-WEIGHT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
4A	30	150		PRSA150-50-	BRD3515	2N520	M-5030-150	TA-530	Filter - Red
B	50	150		30				"	- Green
5	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
6	.01	400		484-01	DT4S1	TP421	S-4-01	TC-11	" "
7	250	500		1468-00025	5W5T25	MC240	M0.5-325	1FM-325	Tone Compensation

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SKY-WEIGHT PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
8A	50KΩ	1		MR35	D11-123	M-44-S	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 8A per instructions
9A	1 Meg.	1		MR53	D13-137	M-63-Z	Tone Control
B	Shaft			Not Req.	A	Not Req.	Attach to 9A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SKY-WEIGHT PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
10	470KΩ	½		BTS-470K	Yl.-Vl.-Yl. Series Phono
11	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Series Phono
12	100KΩ	½		BTS-100K	Br.-Blk.-Yl. Phono Shunt-See Note 1
13	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue AF Grid
14	470KΩ	½		BTS-470K	Yl.-Vl.-Yl. AF Plate Load
15	470KΩ	½		BTS-470K	Yl.-Vl.-Yl. Output Grid
16	200Ω	1		BW-1-220	Red-Blk.-Br. Output Cathode-See Note 2
17	5100Ω	½		BTS-4700	Grn.-Br.-Red Filter
18	47Ω	½		BW-½-47	Yl.-Vl.-Blk. Rectifier Ballast-See Note 3
19	125Ω	5		ABA-150	Series Filament-See Note 4

Note 1-Not used when tone or volume control have low resistance value.
Note 2-Some models use 150Ω in this application. IRC replacement BW-1-150.
Note 3-Not used in all models.
Note 4-On IRC replacement set slider at 125Ω from one end.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: SKY-WEIGHT PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	INSTALLATION NOTES
20	3100Ω	2.9Ω	115Ω	.55Ω		A-3876*	T22845*	*Bend mounting tabs down, file out slots and mount on original bracket.

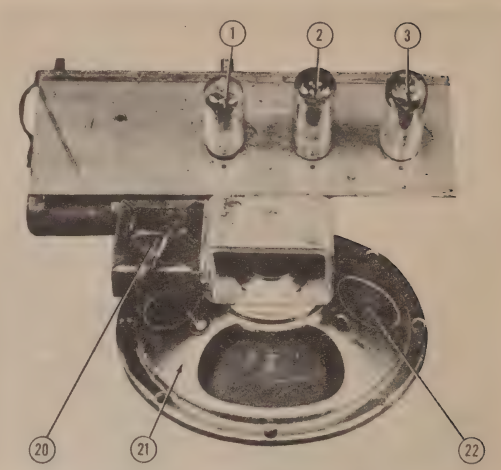
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: SKY-WEIGHT PART No.	REPLACEMENT DATA: JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105		
21	PM	2.9Ω		Mod. P5-X		
	CONE DIA.	VC DIA.				
22	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

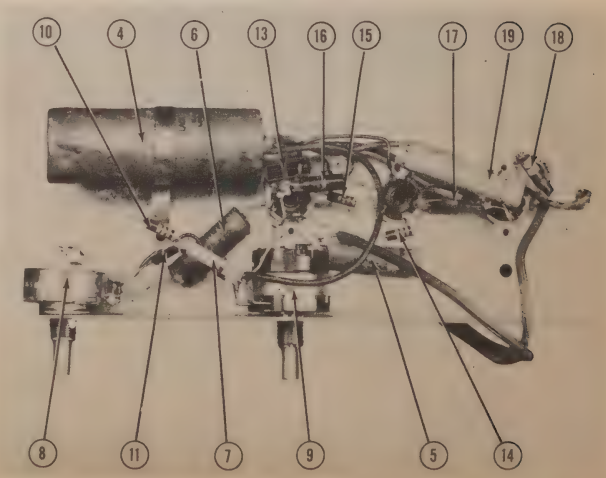
MISCELLANEOUS

ITEM No.	PART NAME	SKY-WEIGHT PART No.	NOTES
	Crystal Cartrdg		Astatic Type L-46-A

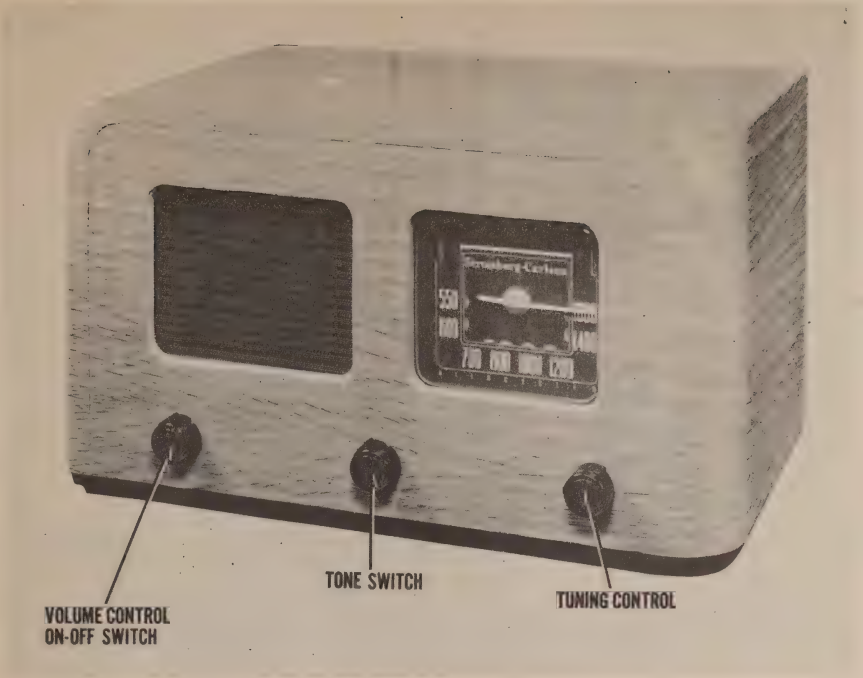
CHASSIS—TOP VIEW



CHASSIS—BOTTOM VIEW



STROMBERG-CARLSON
MODELS 1100-H, 1100-HI



STROMBERG-CARLSON
MODELS 1100-H, 1100-HI

STROMBERG-CARLSON 1100-H

TRADE NAME	Stromberg-Carlson, Model 1100-H, 1100HI (Series 10 early, Series 11-12 Revised)
MANUFACTURER	Stromberg-Carlson Co., 100 Carlson Rd., Rochester 3, N.Y.
TYPE SET	AC-DC Operated Superheterodyne Receiver with Loop Antenna
TUBES (SIX)	Types, 14A7 RF Amp., 14Q7 Converter, 14A7 IF Amp., 14B6 Det.-AVC-AF, 35A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
TUNING RANGE—BROADCAST	540-1650KC RATING .260 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning cap. fully closed and set pointer parallel with base of dial. Use Isolation transformer if available. If not, connect a capacitor in series with low side of signal generator and B-. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.01 MFD.	High side to ext. ant. lug. Low side to chassis.	455KC	Tuning cap. closed.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	200MMFD	"	"	1000KC	"	A5	Adjust for minimum output.
3	200MMFD	"	1400KC	1400KC	"	A6	Adjust for maximum output.
4	200MMFD	"	"	Tune for maximum output.	"	A7	Adjust for maximum output. Check calibration at 600KC. If calibration is off repeat steps 3 & 4 until best results are obtained.

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PARTS LIST AND DESCRIPTIONS

STROMBERG-CARLSON
MODELS 1100-E, 1100-EJ

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: STROMBERG-CARLSON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	14A7	14A7	8V	
2	Converter	14Q7	14Q7	8AL	
3	IF Amp.	14A7	14A7	8V	
4	Det.-AVC-AF	14B6	14B6	8W	
5	Power Output	35A5	35A5	6AA	
6	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: STROMBERG CARLSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	150	111001	AF88D	UP4415	FP214	DY-2x40-150	EL-25	■ Filter *
B	40	150							■ "
8	.05	600	29891	684-05	DT6S5	TP415	S-6-05	TC-15	Line Filter
9	.01	600	25485	684-01	DT6S1	TP410	S-6-01	TC-11	Audio Coupling
10	.002	600	27646	684-002	DT6D2	TP405	S-6-002	TC-22	Tone Compensation
11	.005	600	27760	684-005	DT6D5	TP408	S-6-005	TC-25	Audio Coupling
12	.05	400	40632	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
13	.05	600	29891	684-05	DT6S5	TP415	S-6-05	TC-15	RF Bypass Pwr. Supp.
14	.05	400	40632	484-05	DT4S5	TP426	S-4-05	TC-15	Line Isolation ‡
15	.01	600	25485	684-01	DT6S1	TP410	S-6-01	TC-11	Ext. Ant. Coupling
16	50	500	24560	1468-00005	SW5J5	MC225	MO.5-45	1FM-45	Feedback
17	200	500	27101	1468-0002	SW5T2	MC236	MO.5-32	1FM-32	Audio Plate Bypass
18	50	500	24560	1468-00005	SW5J5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
19	25	500	24166	1468-00002S	SW5J25	MC220	MO.5-425	MS-425	Fixed Trimmer
20	50	500	24560	1468-00005	SW5J5	MC225	MO.5-45	1FM-45	RF Coupling

*Early production filter capacitor part #34806.
‡Early production a .25 MFD. line isolation capacitor part #28002.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STROMBERG-CARLSON PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
21A	1 Meg.	1	31694	MR53	D13-137	M-63-Z	Volume Control
B	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 21A per instructions
C	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

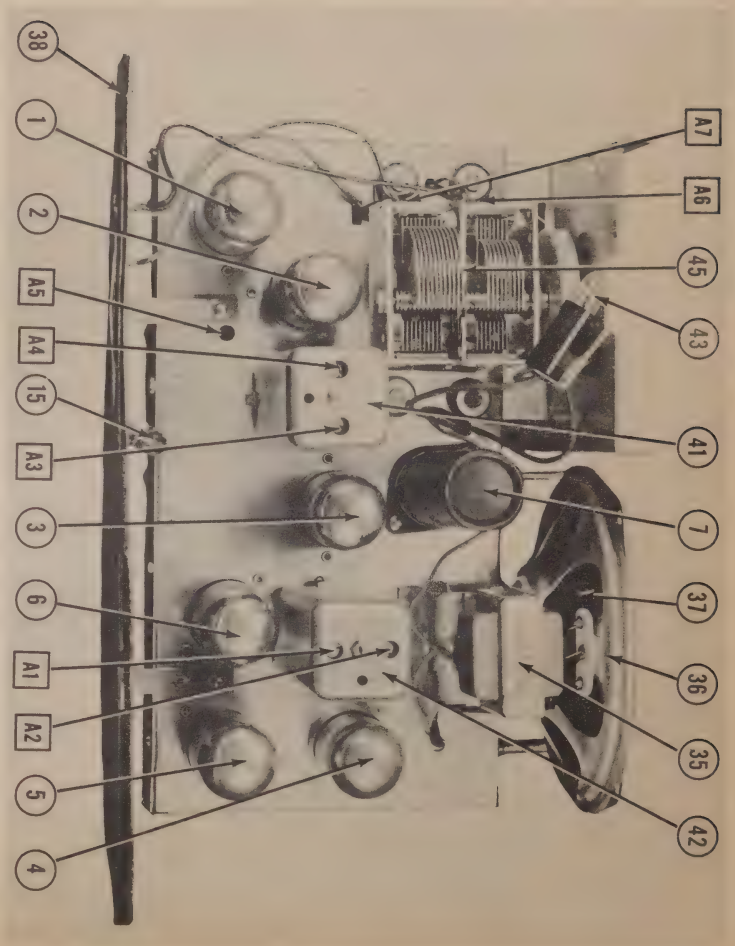
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STROMBERG-CARLSON PART No.	IRC PART No.	IDENTIFICATION CODES
22	270KΩ	½	26362	BTS-270K	Red-Vi.-Yl. Line Isolation
23	4700Ω	½	26341	BTS-4700	Yl.-Vi.-Red RF Plate Load
24	1 Meg.	½	26369	BTS-1 Meg.	Br.-Blk.-Grn. Converter Grid
25	22KΩ	½	26349	BTS-22K	Red-Red-Or. Oscillator Grid
26	220KΩ	½		BTS-220K	Red-Red-Yl. 1st IF Transformer Shunt-See Note
27	150Ω	½	26323	BW-½-150	Br.-Grn.-Br. IF Cathode
28	2.2 Meg.	½	26373	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
29	10 Meg.	½	26381	BTS-10 Meg.	Br.-Blk.-Blue AF Grid
30	270KΩ	½	26362	BTS-270K	Red-Vi.-Yl. AF Plate Load
31	120Ω	½	26332	BW-½-120	Br.-Red-Br. Parasitic Suppressor
32	470KΩ	½	26365	BTS-470K	Yl.-Vi.-Yl. Output Grid
33	150Ω	½	26323	BW-½-150	Br.-Grn.-Br. Output Cathode
34	22Ω	1	41580	BW-1-22	Red-Red-Blk. Filter

Note-Not used in all models.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: STROMBERG-CARLSON PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
35	2100Ω	3.2Ω	230Ω	.6Ω	Part of 34505	A-3876**	T22545**		**Bend mounting tabs down, file out slots and mount on original bracket.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			STROMBERG-CARLSON PART No.	JENSEN PART No.		
36	FIELD RES. 410Ω	VC IMP. 3.3Ω	34505	ST-194† Mod. F5-X		†Fabricate new mounting bracket.
37	CONE DIA. 5-1/8"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

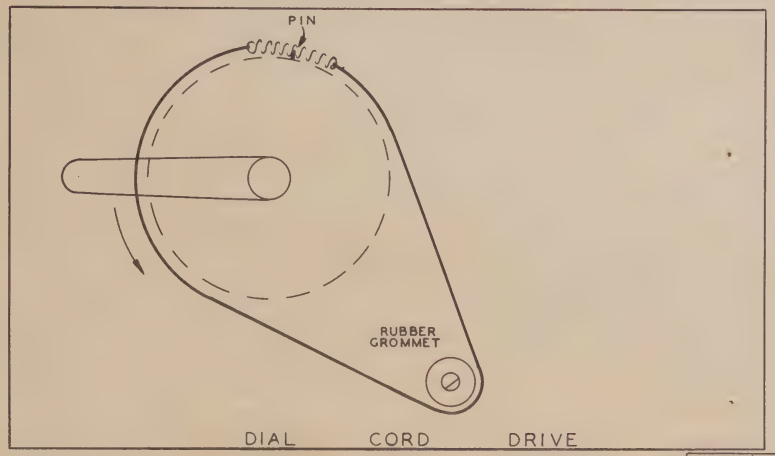
ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PRI.	SEC.	STROMBERG-CARLSON PART No.	MEISSNER PART No.
38	Loop Ant.	.1Ω	1Ω	33205	
39	Wave Trap		55Ω	33249	
40	Osc. Coil	.8Ω	5.8Ω	33206	14-1040
41	Input IF	20Ω	20Ω	31686	16-6658
42	Output IF	18Ω		33208	16-6670

DIAL LIGHT

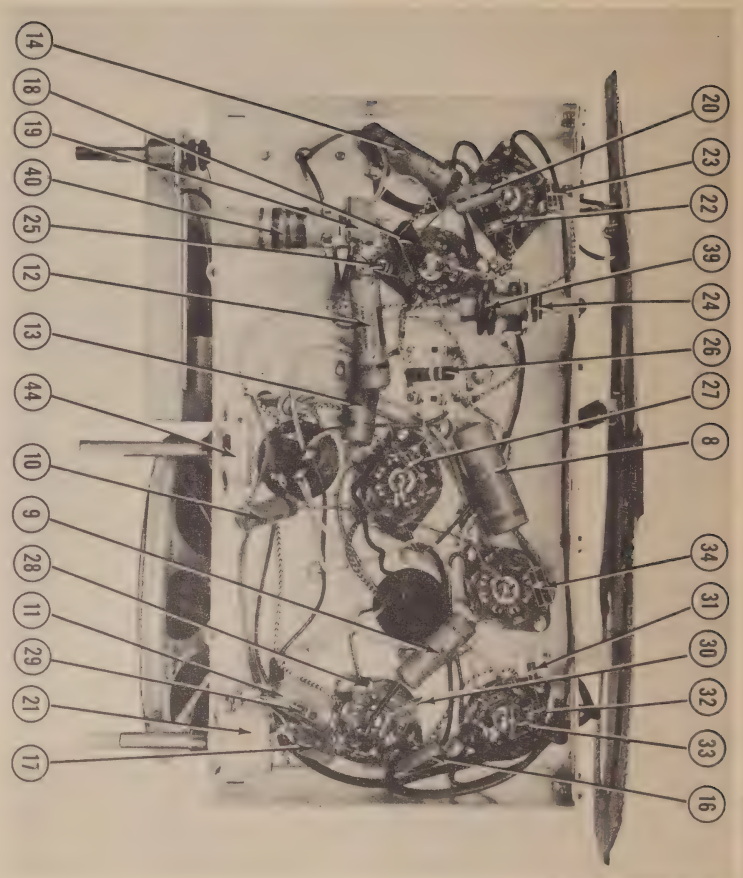
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					STROMBERG-CARLSON PART No.		
43	Bayonet	6.3	0.25	Blue	30933		Type 44

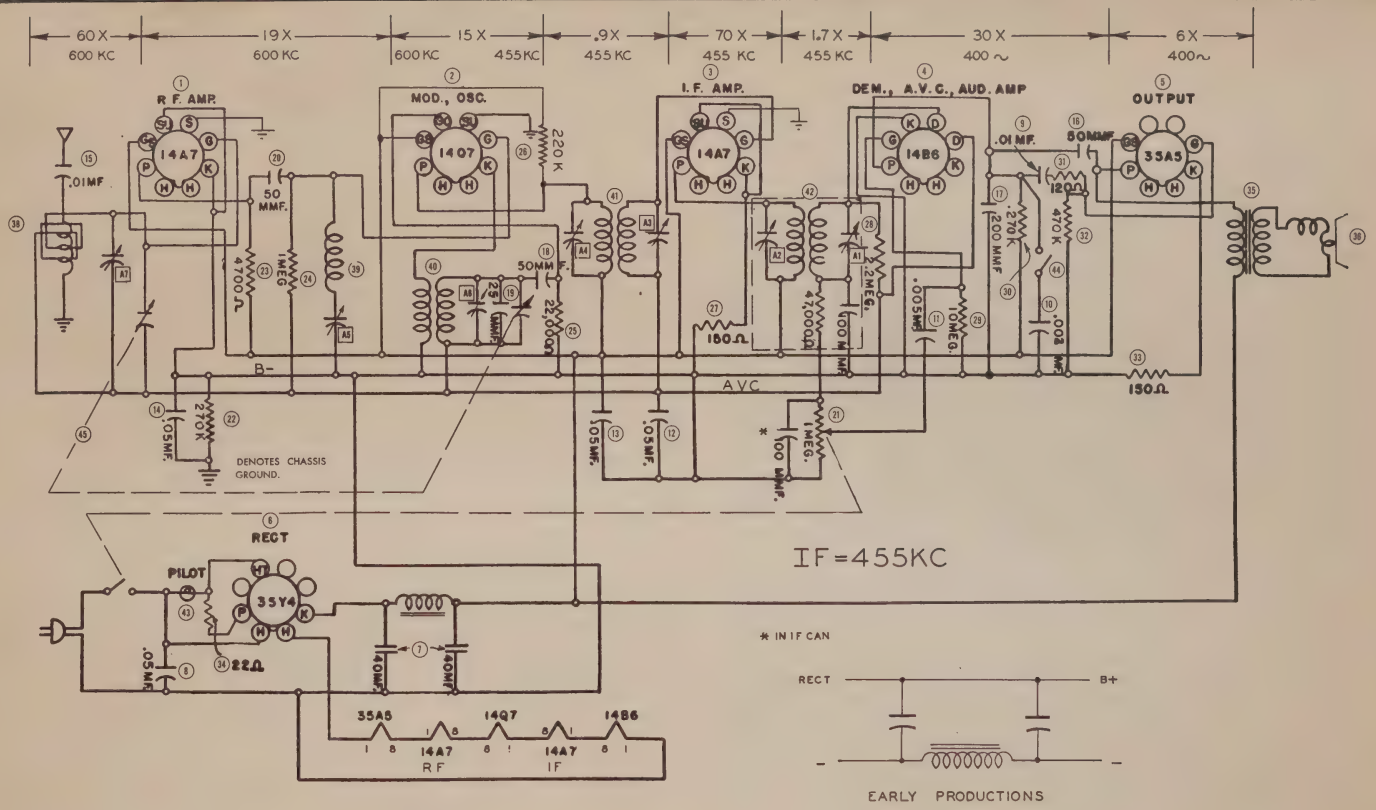
MISCELLANEOUS

ITEM No.	PART NAME	STROMBERG-CARLSON PART No.	NOTES
44	Tone Switch	42435	
45	2 Gang Var. Cap.	31698	22-477 MMF, 27-255 MMF
	Dial Glass	33531	
	Dial	37125	Early production
	Dial	34600	Late production
AS	Trimmer	27921	Wave Trap
	Pointer	33211	
	Cabinet	35528	Model 1100-H
	"	37269	" 1100-HI



CHASSIS—BOTTOM VIEW





VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	50V. AC	43V. DC	87V. DC	0V.	0V.	-.6V. DC	0V.	38V. AC
2	14Q7	2.6V. AC	87V. DC	87V. DC	-7.8VDC	0V.	-1V. DC	0V.	38V. AC
3	14A7	13V. AC	87V. DC	87V. DC	0V.	0V.	-.6V. DC	1.4V. DC	28V. AC
4	14B6	0V.	65V. DC	-.5V. DC	0V.	-.5V. DC	-.6V. DC	0V.	13V. AC
5	35A5	88V. AC	80V. DC	87V. DC	0V.	0V.	0V.	52V. DC	50V. AC
6	35Y4	117V. AC	111V. AC	0V.	113V. AC	0V.	0V.	115V. DC	88V. AC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	14A7	48 Ω	75K Ω	70K Ω	0 Ω	240K Ω	3.2MEG.	0 Ω	35 Ω
2	14Q7	24 Ω	70K Ω	70K Ω	20K Ω	240K Ω	4.2MEG.	80 Ω	35 Ω
3	14A7	12 Ω	70K Ω	70K Ω	0 Ω	240K Ω	3.2MEG.	140 Ω	24 Ω
4	14B6	0 Ω	340K Ω	10MEG.	0 Ω	1.1MEG.	3.2MEG.	0 Ω	12 Ω
5	35A5	80 Ω	70K Ω	70K Ω	0 Ω	INF.	470K Ω	140 Ω	46 Ω
6	35Y4	102 Ω	120 Ω	INF.	101 Ω	INF.	430K Ω	70K Ω	80 Ω

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

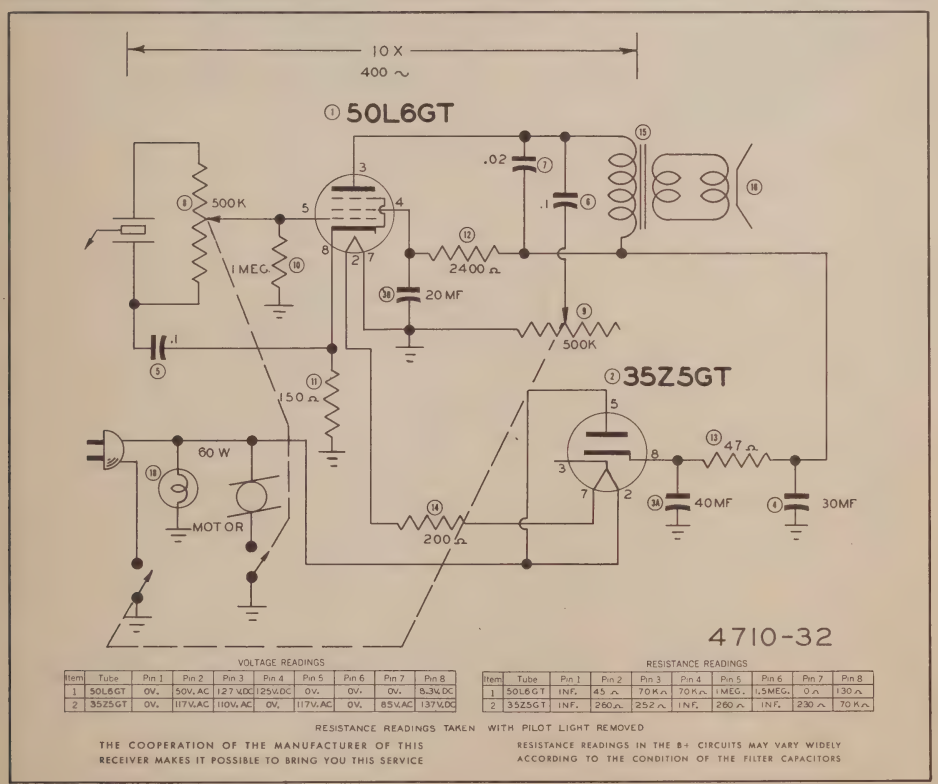
RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS 4710-31

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

TELEVOX MODEL 27JB-2W

TRADE NAME	Televox, Model 27JB-2W
MANUFACTURER	Televox, Inc., 451 S. Fifth Ave., Mt. Vernon, N.Y.
TYPE SET	AC Operated Phonograph with 2 Tube Amplifier & Speaker
TUBES (TWO)	Types, 50L6GT Power Amplifier, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC RATING .570 Amp. @ 117 Volts AC



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50L6GT	0V.	50V. AC	127 VDC	125V.DC	0V.	0V.	0V.	8.3V.DC
2	35Z5GT	0V.	117V.AC	110V. AC	0V.	117V.AC	0V.	85V.AC	137V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50L6GT	INF.	45 Ω	70 KΩ	70 KΩ	1 MEG.	1.5MEG.	0 Ω	130 Ω
2	35Z5GT	INF.	260 Ω	252 Ω	INF.	260 Ω	INF.	230 Ω	70 KΩ

RESISTANCE READINGS TAKEN WITH PILOT LIGHT REMOVED

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: TELEVOX PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Power Output	50L6GT	50L6JT	7AC	
2	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TELEVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
3A	40	150		PRSA150-40-	BRD4215	2NS14	M-2X40-150	TA-240	Filter - Red
B	20	150		20					" - Green
4	30	150		PRS150-30	BR3015	TC47	M-30-150	UT-301	"
5	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Phono Isolation
6	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Tone Compensation
7	.02	600		684-02	DT6S2	TP412	S-6-02	TC-12	Output Plate Bypass

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELEVOX PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
8A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 8A per instructions
C	Motor Sw			M26	41	SW-A	" " " " "
9A	500KΩ	1		MR48	D13-133	M-60-Z	Tone Control
B	Shaft			Not Req.	A	Not Req.	Attach to 9A per instructions
C	AC Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELEVOX PART No.	IRC PART No.	IDENTIFICATION CODES
10	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Output Grid
11	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
12	2400Ω	1		BTA-2200	Red-Yl.-Red Filter
13	47Ω	½		BW-½-47	Yl.-Vi.-Blk. "
14	200Ω	10		AB-200	Series Filament

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: TELEVOX PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
15	3100Ω	3.5Ω	160Ω	.5Ω		A-3876*	T22S46*		*Bend mounting tabs down, file out slots and mount on original bracket.

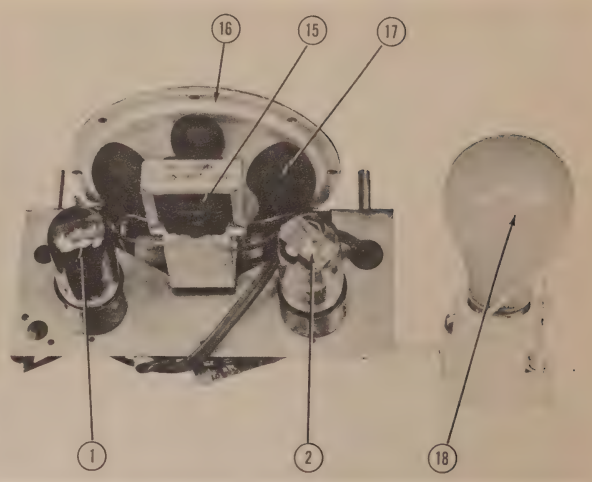
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: TELEVOX PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105		
16	PM	3.5Ω		Mod. P5-X		
	CONE DIA.	VC DIA.				
17	4-5/8"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

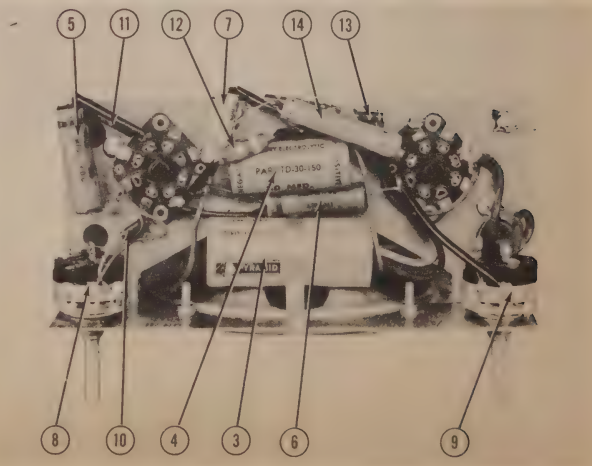
MISCELLANEOUS

ITEM No.	PART NAME	TELEVOX PART No.	NOTES
18	Light Bulb Crystal Cartridge		60 Watt-110 Volt Astatic Type L-72-A

CHASSIS—TOP VIEW

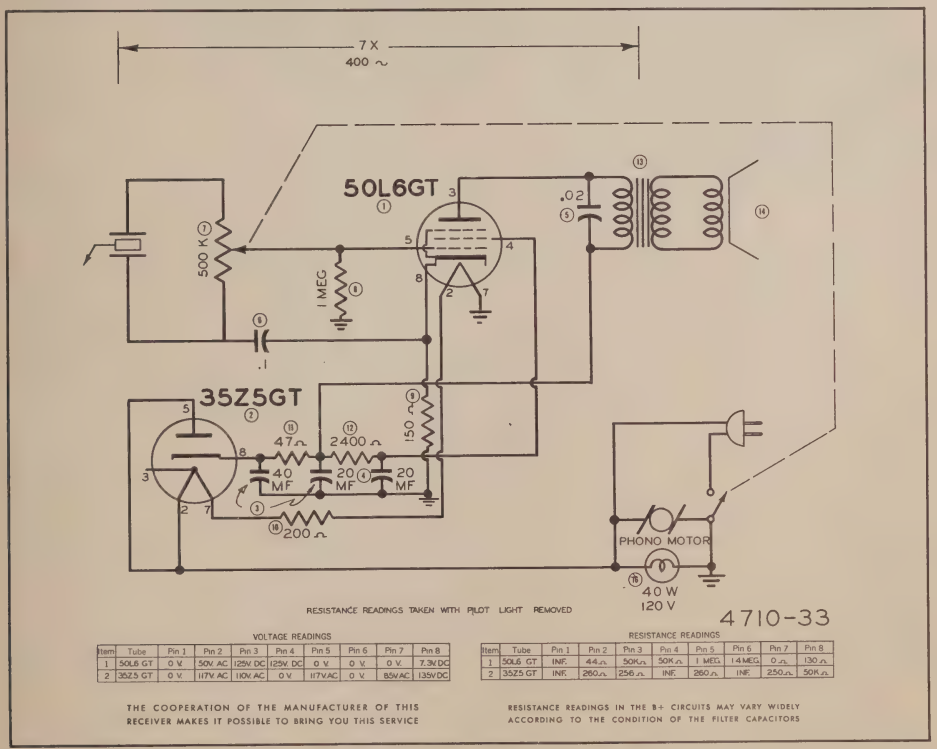


CHASSIS—BOTTOM VIEW



TELEVOX MODEL 27K-W

TRADE NAME	Televox, Model 27K-W
MANUFACTURER	Televox, Inc., 451 S. 5th Ave., Mt. Vernon, N.Y.
TYPE SET	AC Operated Phonograph with 2 Tube Amplifier & Speaker
TUBES (TWO)	Types, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	110-120 Volts AC RATING .440 Amp. @ 117 Volts AC



RESISTANCE READINGS TAKEN WITH PILOT LIGHT REMOVED

4710-33

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50L6 GT	0 V.	50V AC	125V DC	125V DC	0 V.	0 V.	0 V.	7.3VDC
2	35Z5 GT	0 V.	117V AC	110V AC	0 V.	117VAC	0 V.	85VAC	135VDC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	50L6 GT	INF.	44Ω	50KΩ	50KΩ	1 MEG.	14 MEG.	0 Ω	130 Ω
2	35Z5 GT	INF.	260Ω	256Ω	INF.	260Ω	INF.	250Ω	50R Ω

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: TELEVOX PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Power Output	50L6GT	50L6GT	7AC	
2	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TELEVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
3A	40	150		PRSA150-40-20	BRD4215	2N514	M-2x40-150	TA-240	Filter - Red
B	20	150							" - Blue
4	20	150		PRS150-20	BR2015	TC45	M-20-150	UT-201	"
5	.02	400		484-02	DT4S2	TP423	S-4-02	TC-12	Audio Plate Bypass
6	.1	200		484-.1	DT4P1	TP428	S-4-1	TC-1	Phono Isolation

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELEVOX PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
7A	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
B	Shaft			Not Req.	A	Not Req.	Attach to 7A per instructions
C	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELEVOX PART No.	IRC PART No.	IDENTIFICATION CODES
8	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Output Grid
9	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
10	200Ω	10		AB-200	Series Filament
11	47Ω	½		BW-½-47	Yl.-Vi.-Blk. Filter
12	2400Ω	1		BTA-2200	Red-Vi.-Red Filter

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: TELEVOX PART No.	STANCOR PART No.	THORDAR'N PART No.		INSTALLATION NOTES
13	1800Ω	3.3Ω	180Ω	.6Ω		A-3876*	T22S45*		*Bend mounting tabs down, file out slots and mount on original bracket.

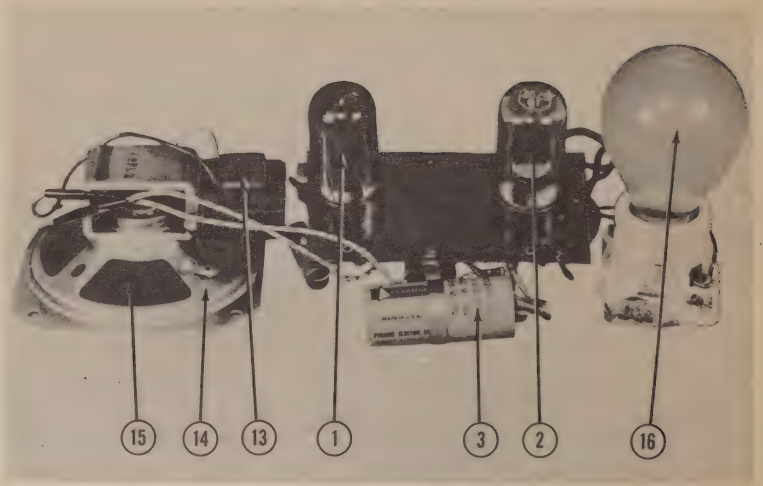
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA: TELEVOX PART No.	JENSEN PART No.	UTAH PART No.	INSTALLATION NOTES
14	FIELD	VC IMP.		ST-113		
	PM	3.3Ω		Mod. P4-X		
	CONE DIA.	VC DIA.				
15	4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

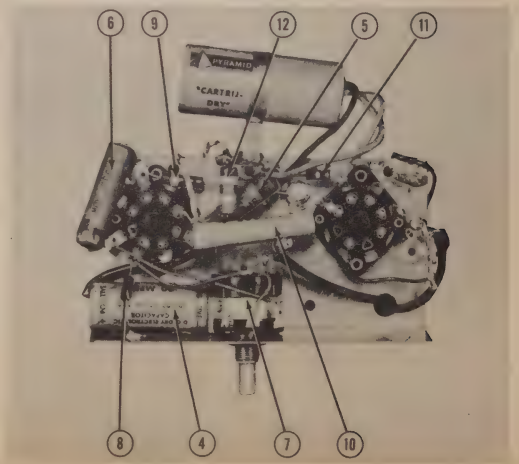
MISCELLANEOUS

ITEM No.	PART NAME	TELEVOX PART No.	NOTES
16	Light Bulb Crystal Cartridge		110 Volt-40 Watt Astatic Type L-72A

CHASSIS—TOP VIEW



CHASSIS—BOTTOM VIEW



ZENITH
MODEL 6G004Y (CH. 6C41)
BATTERY OPERATED

ZENITH
MODEL 6G004Y (CH. 6C41)
BATTERY OPERATED

ZENITH
MODEL 6G004Y (CH. 6C41)
BATTERY OPERATED

ZENITH MODEL 6G004Y

TRADE NAME	Zenith, Model 6G004Y (Chassis 6C41)
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Ill.
TYPE SET	Three Power Portable Superheterodyne Receiver with Loop Antenna
TUBES (SIX)	Types, 1LN5 RF Amp., 1LA6 Converter, 1LN5 IF Amp., 1LH4 Det.-AVC-AF, 3Q5GT Power Output, 117Z6GT Rectifier.
POWER SUPPLY	110-120 Volts AC-DC or 9 Volt "A" Battery & 90 Volt "B" Battery in Pack Form
RATING	.170 Amp. @ 117 Volts AC or 52 MA @ 9.6 Volts DC & 15MA @ 97 Volts DC
TUNING RANGE—BROADCAST	535-1620KC SHORT WAVE 9.4-12.1MC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Use battery power when available. If AC power is used, use an isolation transformer when available. If not, connect a capacitor in series with the low side of the signal generator and B-. Volume control should be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to Pin 6 (grid) 1LA6. Low side to B-.	455KC	BC	600KC	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output. If AC power is used without an isolation transformer, reduce dummy ant. to 200 MMF. to reduce hum modulation.
2		Loop	"	"	"	"	A5	Fashion loop of one turn wire and radiate signal into loop of receiver. Adjust for minimum output.
3		"	11.8MC	SW	11.8MC	"	A6	Radiate signal into pole ant. (extended full length) as in Step 2. Adjust for maximum output.
4		"	"	"	Tune for maximum output.	"	A7	"
5		"	1600KC	BC	1600KC	"	A8	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
6		"	1400KC	"	Tune for maximum output.	"	A9	"
7		"	600KC	"	"	"	A10	Rock tuning cap. and adjust for maximum output. Repeat steps 5, 6 and 7 until no further improvement can be made.

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PARTS LIST AND DESCRIPTIONS

ZENITH MODEL [illegible] (Ch. [illegible])

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: ZENITH PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	1LN5	1LN5	7A0	
2	Converter	1LA6	1LA6	7AK	
3	IF Amp.	1LN5	1LN5	7A0	
4	Det.-AVC-AF	1LH4	1LH4	9AG	
5	Power Output	3Q5GT	3Q5GT	7AF	
6	Rectifier	117Z6GT	117Z6GT	7Q	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ZENITH PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: SOLAR PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7A	40	150	22-1443	AF446D	UP7DJ19$				◓ Filter
B	40	150	"	"	"				■ "
C	20	150		TRS25-100					▲ "
D	200	10		TRS25-100	BRH1225				" Filament Bypass
8	.05	200	22-1017	484-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
9	.006	600	22-458	684-006	DT6D6	TP409	S-6-006	TC-26	Output Plate Bypass
10	.01	600	22-196	684-01	DT6S1	TP410	S-6-01	TC-11	Audio Coupling
11	.001	200	22-1444	484-001	DT6D1	TP404	S-6-001	TC-21	Tone Compensation
12	.015	400	22-1120	484-015	DT4S15	TP400	S-4-015	TC-12	" " " ‡
13	.001	600	22-1431	684-001	DT6D1	TP404	S-6-001	TC-21	Audio Coupling
14	.05	200	22-829	484-05	DT4S5	TP426	S-4-05	TC-15	IF Grid Filter
15	.15	200	22-1025	484-.2	DT4P2	TP417	S-4-2	TC-2	Filament Bypass
16	.05	200	22-829	484-05	DT4S5	TP426	S-4-05	TC-15	RF Bypass Pwr. Supp.
17	.1	200	22-827	484-.1	DT4P1	TP428	S-4-1	TC-1	Line Isolation
18	.05	200	22-829	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
19	.1	200	22-827	484-.1	DT4P1	TP428	S-4-1	TC-1	Filament Bypass
20	.05	200	22-829	484-05	DT4S5	TP426	S-4-05	TC-15	RF Grid Filter
21	.01	200	22-[illegible]	484-01	DT4S1	TP421	S-4-01	TC-11	" " "
22	.05	200	22-829	484-05	DT4S5	TP426	S-4-05	TC-15	Conv. Screen Bypass
23	150	500	22-470	1468-00015	5W5T15	MC225	MO.5-315	1FM-315	Audio Plate Bypass
24	100	500	22-162	1468-0001	5W5T1	MC225	MO.5-31	1FM-31	Osc. Grid Capacitor
25	100	500	22-162	1468-0001	5W5T1	MC235	MO.5-31	1FM-31	RF Coupling
26	500	500	22-147	1468-0005	5W5T5	MC245	MO.5-35	1FM-35	SW Ant. Coupling

‡Not used in all models.
$Do not use bypass section.

CONTROLS

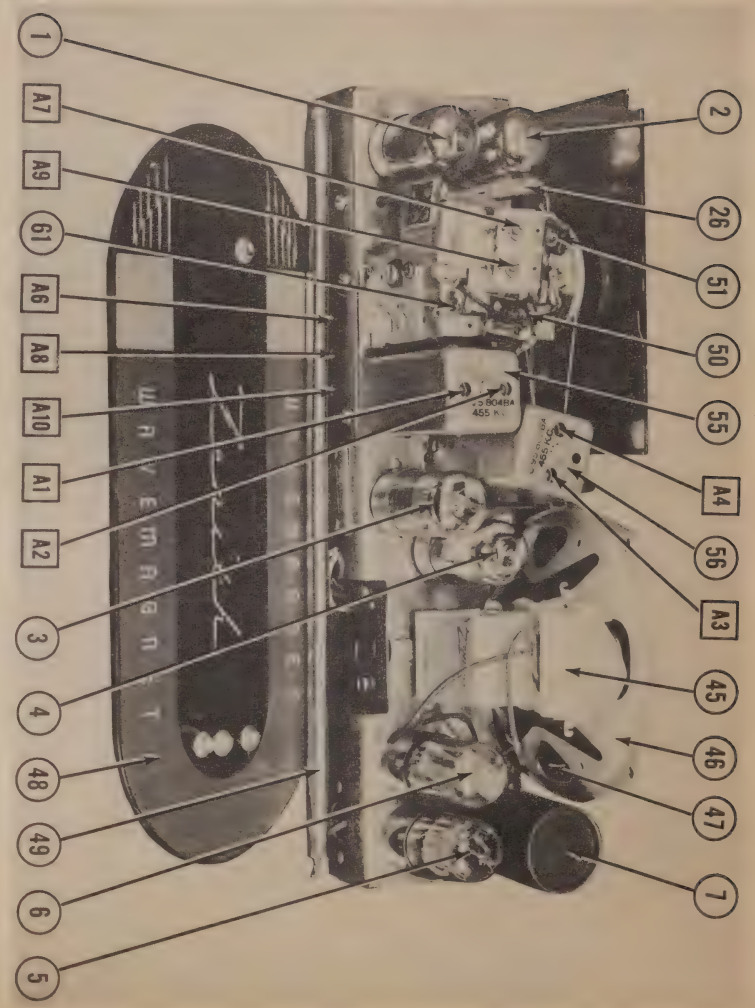
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ZENITH PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	INSTALLATION NOTES
27A	1 Meg.	1	63-1231	MK402 *	D13-137*	AM-63-Z*	Volume Control
B	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 27A per instructions
C	Switch		"	"	42	SW-A2	" " "
27	1 Meg.	1	63-1537	M27			Volume Control & Sw. Alternate Control

*Use original off-on indicator bushing.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ZENITH PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
28	2.2 Meg.	½	63-200	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
29	15KΩ	½	63-590	BTS-15K	Br.-Grn.-Or. RF Plate Load
30	100KΩ	½	63-715	BTS-100K	Br.-Blk.-Yl. Converter Grid
31	180KΩ	½	63-773	BTS-180K	Br.-Gray-Yl. Oscillator Grid
32	47KΩ	½	63-713	BTS-47K	Yl.-Vi.-Or. Converter Screen Dropping
33	6800Ω	½	63-708	BTS-6800	Blue-Gray-Red Oscillator Anode Dropping
34	2.2 Meg.	½	63-200	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
35	4.7 Meg.	½	63-602	BTS-4.7 Meg.	Yl.-Vi.-Grn. IF Grid
36	33KΩ	½	63-592	BTS-33K	Or.-Or.-Or. Tone Compensation-See Note 1
37	4.7 Meg.	½	63-602	BTS-4.7 Meg.	Yl.-Vi.-Grn. AF Grid
38	1 Meg.	½	63-271	BTS-1 Meg.	Br.-Blk.-Grn. AF Plate Load

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	
39	2.2 Meg.	½	63-200	BTS-2.2 Meg.	Red-Red-Grn. Output Grid
40	330Ω	½	63-580	BW-½-330	Or.-Or.-Br. Filament String
41	870Ω	1	63-1097		Gray-Vi.-Br. Filament String
42	1500Ω	½	63-418	BTS-1500	Br.-Grn.-Red Filter
43	140Ω	½	63-1366	ABA-150	" - See Note 2
44A	650Ω	3	63-1362		"
B	950Ω				"

Note 1-Not used in all models.
Note 2-On IRC replacement set slider at 140Ω from one end.

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ZENITH PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
45	8200Ω	3.25Ω	650Ω	.65Ω	Part of 48-612	A-3873	T28S47		

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ZENITH PART No.	JENSEN PART No.		
	FIELD	VC IMP.		ST-105 †		† Fabricate new mounting bracket.
46	PM	3.25Ω	49-512	Mod. P8-X		
	CONE DIA.	VC DIA.				
47	5"	3/4"	208-512			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		
		PRI.	SEC.	ZENITH PART No.	MEISSNER PART No.	
48	Loop Ant.		.8Ω	S-11928		
49	SW Ant.			S-11820		
50	Ant. Loading Coil		.6Ω	S-11591		
51	SW Ant. Coil		.1Ω	S-11801		
52	Peaking Coil		1.5Ω	S-11800		
53	Wave Trap		44Ω	S-8326		
54A	BC Osc. Coil	4.5Ω	6Ω	S-11798		Items 54A & 54B wound on same form.
B	SW Osc. Coil	.1Ω	.5Ω	S-11798		
55	Input IF	21Ω	20Ω	95-804	16-6658	
56	Output IF	19Ω	19Ω	95-805	16-6660	

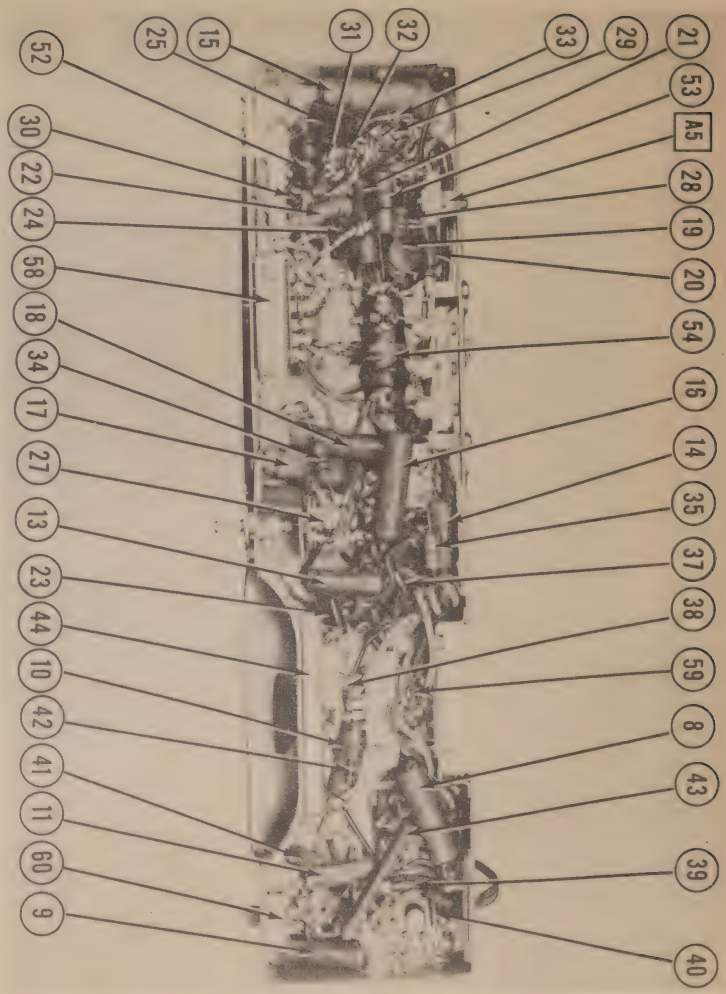
BATTERIES

ITEM No.	VOLTAGE	ZENITH PART No.	EVEREADY			INSTALLATION NOTES
			"A"	"B"	"A-B"	
57	9V "A" 90V "B"	Z985				Battery Pack

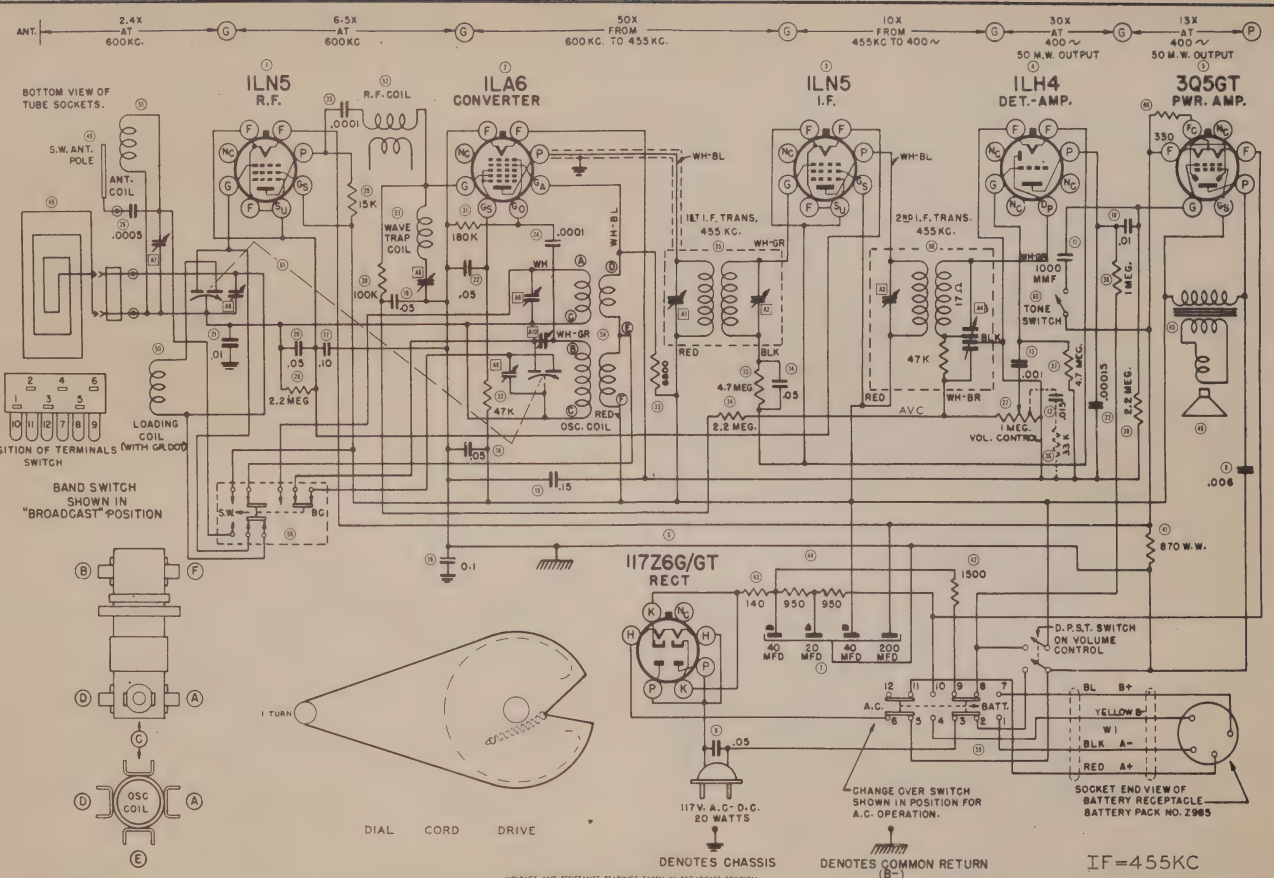
MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
S5	Bandswitch	85-364	
S6	Switch	85-311	Power Change-Over
60	"	85-368	Tone
61	Tuning Capacitor	22-1427	
	Antenna Assby.	S-11820	Telescopic
A5	Trimmer Cap.	22-1382	Wave Trap-85 MMF
A7 A9	Trimmer Cap.	22-1428	SW Ant. Adj. BC Ant. Adj.
A6 A8 A10	Trimmer Cap.	22-1426	SW Osc. Adj. BC Osc. Adj. BC Osc. Padder

CHASSIS—BOTTOM VIEW



ZENITH MODEL 6G041Y (Ch. 6C41)



VOLTAGE AND RESISTANCE READINGS TAKEN IN BROADCAST POSITION

VOLTAGE AND RESISTANCE READINGS TAKEN IN AC-DC POSITION

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1LN5	3.1VDC	83VDC	85VDC	1.4VDC	2.8VDC	0V	1.4VDC	
2	1LA6	1.8VDC	88VDC	88VDC	6.3VDC	2.5VDC	2.5VDC	0V	
3	1LN5	1.4VDC	89VDC	89VDC	1.4VDC	2.5VDC	2.5VDC	0V	3.0VDC
4	1LH4	3.0VDC	5.4VDC	0V	2.5VDC	1.8VDC	1.8VDC	0V	1.8VDC
5	3Q5GT	0V	84VDC	87VDC	86VDC	1.4VDC	1.4VDC	3.0VDC	3.8VDC
6	117Z6GT	0V	117VAC	117VAC	113VDC	117VAC	0V	0V	113VDC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	1LN5	∞	18KΩ	32KΩ	∞	∞	22MEG.	INF.	∞
2	1LA6	∞	32KΩ	32KΩ	200KΩ	50KΩ	3.5MEG.	2 MEG.	∞
3	1LN5	∞	32KΩ	32KΩ	∞	∞	5MEG.	INF.	∞
4	1LH4	∞	1MEG.	INF.	900KΩ	∞	5MEG.	INF.	∞
5	3Q5GT	INF.	∞	49Ω	32Ω	22KΩ	∞	∞	∞
6	117Z6GT	INF.	240Ω	240Ω	2Ω	240Ω	INF.	0Ω	2Ω

*DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

4710-35

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment etc., that an absolute reading is impractical. AVC is made inoperative by shorting to low side of volume control.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

ZENITH
MODEL 6R084 (CH. 6C21)

ZENITH
MODEL 6R084 (CH. 6C21)

ZENITH MODEL 6R084

TRADE NAME	Zenith, Model 6R084 (Ch. 6C21)
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Ill.
TYPE SET	AC Operated Phono-Radio Combination Superheterodyne with Loop Antenna
TUBES (SIX)	Types, 6SK7 RF Amp., 6SA7 Converter, 6SK7 IF Amp., 6SQ7 Det.-AVC-AF, 6K6GT Power Output, 6X5GT Rectifier.
POWER SUPPLY	110-120 Volts AC
TUNING RANGE—BROADCAST	535-1620KC RATING .450 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low freq. end of dial. Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control shoulc be at maximum position, output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.5 MFD.	High side to Pin 8 (grid) 6SA7. Low side to	455KC	Tuning cap. fully closed.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output.
2		Loop	1600KC	1600KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3		"	1400KC	Tune for maximum output.	"	A6,A7.	"

DISASSEMBLY INSTRUCTIONS

1. Remove two push-on type control knobs.
2. Remove four wood screws holding chassis mounting board to cabinet.
3. Remove four screws holding mounting board to chassis.
4. Remove mounting board from chassis.
5. Remove three leads from loop antenna.
6. Remove chassis from cabinet.
7. Unplug phono motor and phono pick-up leads.
8. Remove one wood screw holding loop antenna in cabinet. Remove loop.

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PARTS LIST AND DESCRIPTIONS

ZENITH MODEL
GR024 (Ch. GC21)

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		ZENITH PART No.	STANDARD REPLACEMENT		
1	RF Amp.	6SK7	6SK7	8N	
2	Converter	6SA7	6SA7	8R	
3	IF Amp.	6SK7	6SK7	8N	
4	Det.-AVC-AF	6SQ7	6SQ7	8Q	
5	Power Output	6K6GT	6K6GT	7S	
6	Rectifier	6X5GT	6X5GT	6S	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	
7A	15	450	22-1372	PRS450-16	BR1645				◓ Filter ■ Neg.
B	15	350		PRS450-16	BR1645				▲ " Can - Neg.
8	.005	400	22-1041	484-005	DT6D5	TP408	S-6-005	TC-25	Line Bypass
9	.003	600	22-288	684-003	DT6D3	TP406	S-6-003	TC-23	Output Plate Bypass
10	.02	600	22-830	684-02	DT4S2	TP412	S-6-02	TC-12	Audio Coupling
11	.2	200	22-138	484-.2	DT4P2	TP429	S-4-2	TC-2	Bias Filter
12	.004	600	22-448	684-004	DT6D4	TP407	S-6-004	TC-24	Tone Compensation
13	.0005	600	22-854	1468-0005	DT6T5	TP403	S-6-0005	TC-35	Audio Plate Bypass
14	.004	600	22-1362	684-004	DT6D4	TP407	S-6-004	TC-24	Audio Coupling
15	.02	200	22-327	484-02	DT4S2	TP423	S-4-02	TC-12	Tone Compensation
16	.02	200	22-1386	484-02	DT4S2	TP423	S-4-02	TC-12	Radio Muting
17	.05	200	22-829	484-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
18	.05	200	22-829	484-05	DT4S5	TP426	S-4-05	TC-15	" "
19	.05	600	22-171	684-05	DT6S5	TP415	S-6-05	TC-15	Plate Decoupling
20	.05	600	22-171	684-05	DT6S5	TP415	S-6-05	TC-15	Screen Bypass

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	ZENITH PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
21A	500KΩ	1	63-1340	TM231	D19-133X	AT-90	Volume Control
B	Shaft		Not Req.	S325	E	KSS-3	Attach to 21A per instructions
C	Switch		"	M26	41	SW-A	" " " " "
22	1 Meg.	1	63-1341				Tone Control

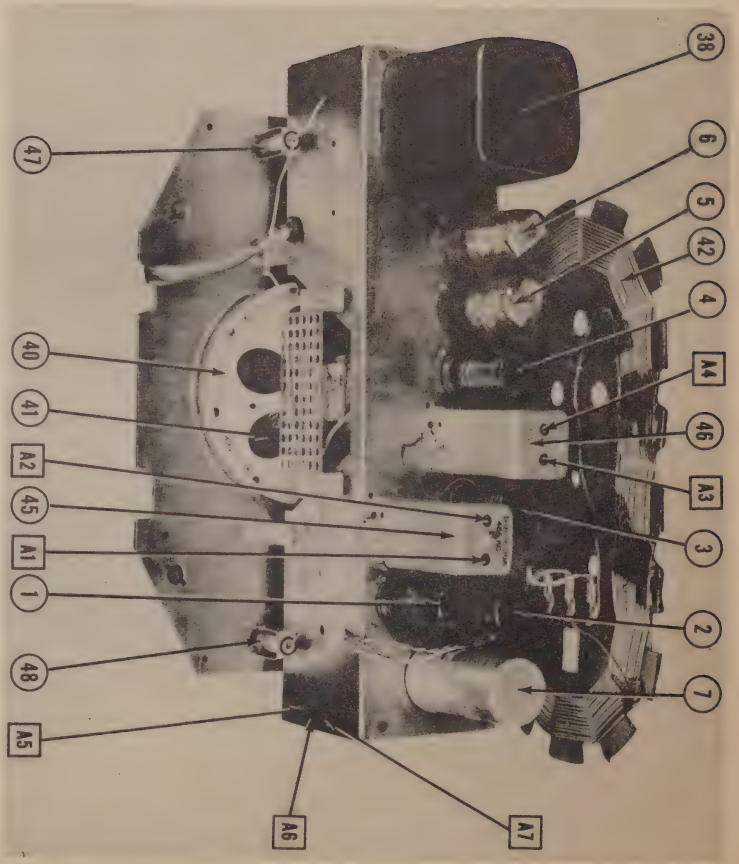
RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	
23	10KΩ	1	63-156	BTA-10K	Br.-Blk.-Or. RF Plate Load
24	220KΩ	½	63-296	BTS-220K	Red-Red-Yl. AVC Network
25	220Ω	½	63-579	BW-½-220	Red-Red-Grn. Parasitic Suppressor
26	10KΩ	½	63-589	BTS-10K	Br.-Blk.-Or. Oscillator Grid
27	8.2 Meg.	½	63-673	BTS-8.2 Meg.	Gray-Red-Grn. AVC Network
28	2.2 Meg.	½	63-600	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
29	1000Ω	½	63-605	BTS-1000	Br.-Blk.-Red Decoupling
30	22KΩ	2	63-1058	BT-2-22K	Red-Red-Or. Screen Dropping
31	10KΩ	½	63-641	BTS-10K	Br.-Blk.-Or. Tone Compensation
32	15 Meg.	½	63-976	BTS-15 Meg.	Br.-Grn.-Blue AF Grid
33	220KΩ	½	63-655	BTS-220K	Red-Red-Yl. AF Plate Load
34	470KΩ	½	63-597	BTS-470K	Yl.-Vi.-Yl. Output Grid
35	220KΩ	½	63-655	BTS-220K	Red-Red-Yl. Bias Network
36	270KΩ	½	63-656	BTS-270K	Red-Vi.-Yl. Bias Network
37	1Ω	½	63-1223	BW-½-1	Br.-Blk.-Gold Series Pilot Light

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			INSTALLATION NOTES
	PRI.	SEC. 1	SEC. 2	SEC. 3	ZENITH PART No.	STANCOR PART No.	THORDARSON PART No.	
38	117V AC @ .45A	580V CT @ .068A	6.4V AC @ 2.7A		95-911	P-6120*	T22R02*	*Drill new mounting holes and use universal mounting brackets.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ZENITH	STANCOR	THORDAR'N		
	PRI.	SEC.	PRI.	SEC.	PART No.	PART No.	PART No.		
39	5800Ω	3.3Ω	450Ω	.5Ω	Part of 49-515	A-3277†	T22S46†		†Bend mounting tabs down, file out slots and mount on original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ZENITH PART No.	JENSEN PART No.		
	FIELD RES.	VC IMP.		ST-194		
40	620Ω	3.3Ω	49-515	Mod. F5-X		
	CONE DIA.	VC DIA.				
41	4-3/4"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

R F COILS

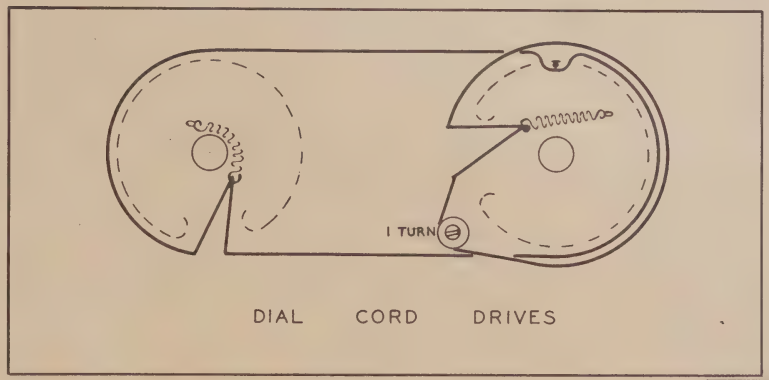
ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PRI.	SEC.	ZENITH PART No.	MEISSNER PART No.
42	Loop Ant.	0Ω	.8Ω	S-11382	
43	RF Coil	2Ω	9Ω	S-11163	
43	Osc. Coil	1Ω	7.8Ω	S-11164	
45	Input IF	11.5Ω	11.5Ω	95-909	16-6658
46	Output IF	27Ω		95-910	16-6670

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					ZENITH PART No.		
47	Bayonet	6-8	0.25	Blue	100-36		Type 44
48	"	6-8	0.25	"	100-36		"

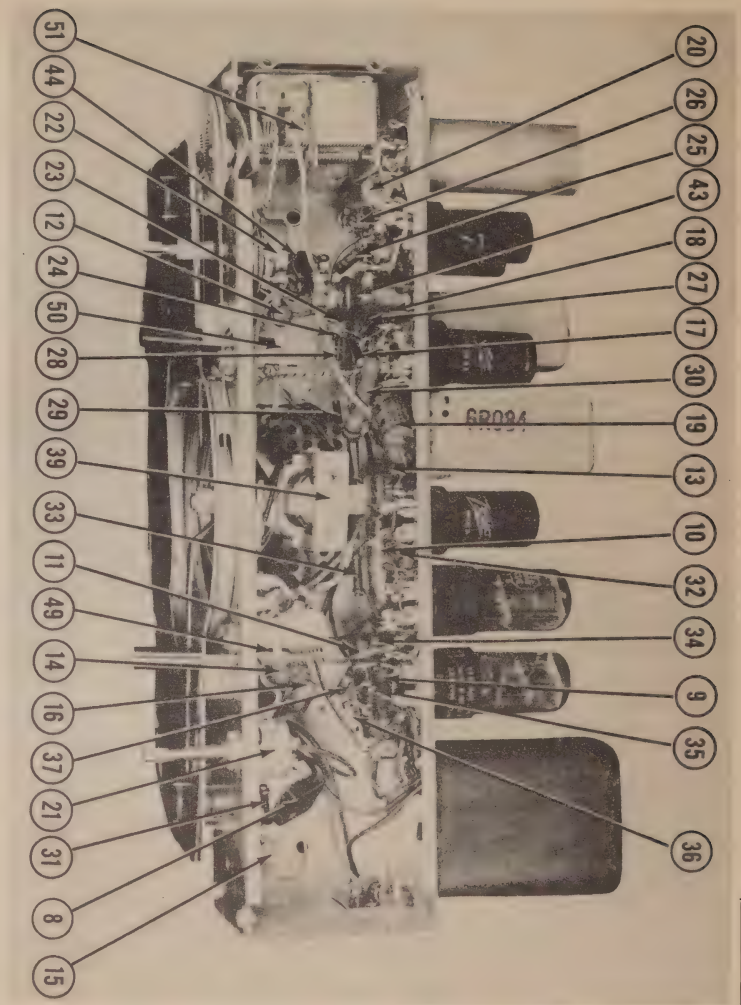
MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
49	Switch	85-337	Radio-Phono
50	Switch	85-349	Reject
51	3 Gang Var. Cap.	22-1369	30-494 MMF, 15-213 MMF, 15-88MMF
	Crystal Cartridge		Astatic Type L-76-S



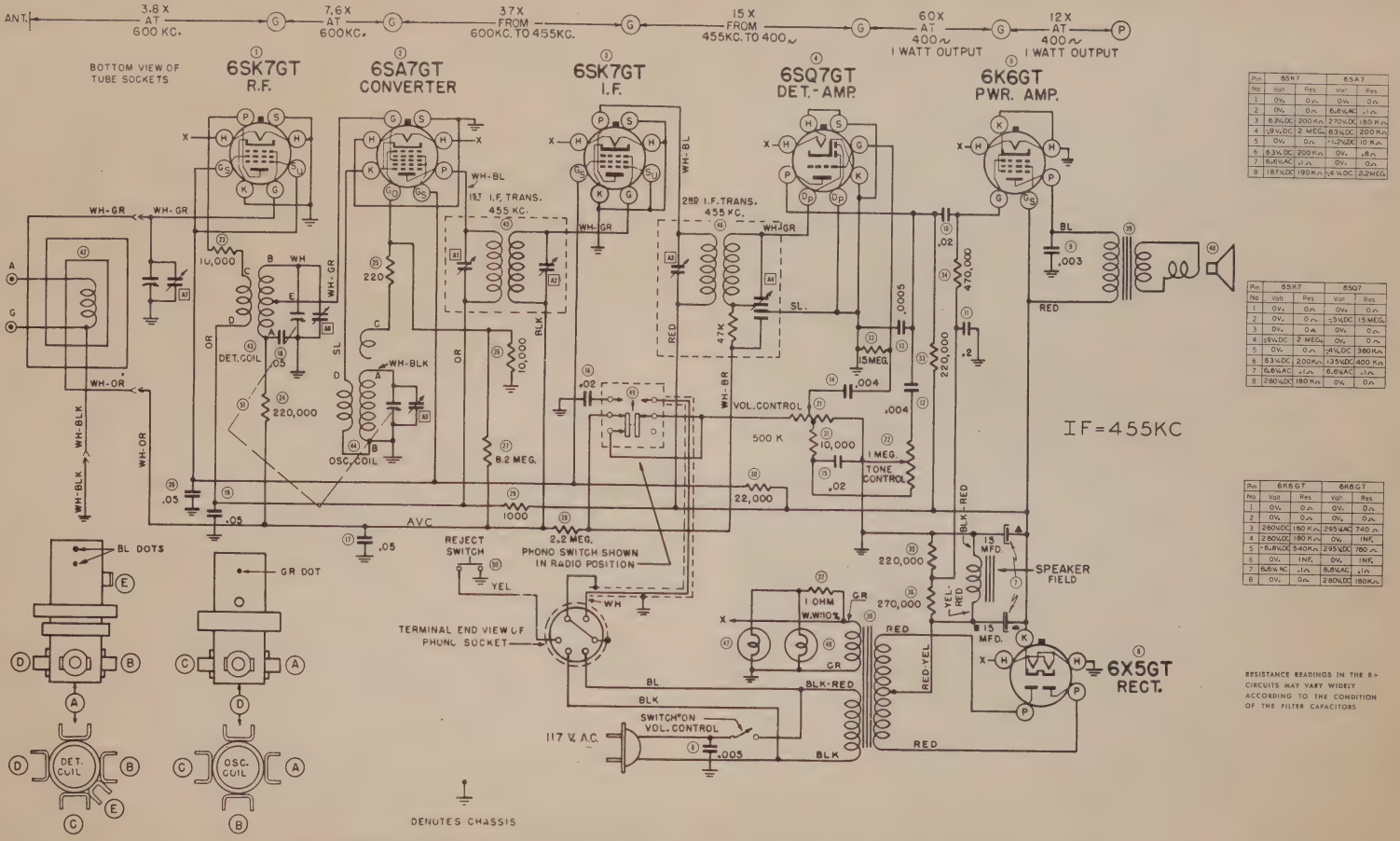
DIAL CORD DRIVES

CHASSIS—BOTTOM VIEW



ZENITH MODEL 6R084 (Ch. 6021)

ZENITH MODEL 6R084 (Ch. 6021)



Pin No	6SK7 Volt	6SK7 Res	6SA7 Volt	6SA7 Res
1	0V.	0Ω	0V.	0Ω
2	0V.	0Ω	6.6V.AC	1Ω
3	6.3V.DC	200 KΩ	270V.DC	180 KΩ
4	-.9V.DC	2 MEG.	63V.DC	200 KΩ
5	0V.	0Ω	-1.2V.DC	10 KΩ
6	63V.DC	200 KΩ	0V.	.8Ω
7	6.6V.AC	1Ω	0V.	0Ω
8	187 V.DC	190 KΩ	-.4 V.DC	2.2 MEG.

Pin No	6SK7 Volt	6SK7 Res	6SQ7 Volt	6SQ7 Res
1	0V.	0Ω	0V.	0Ω
2	0V.	0Ω	-.5V.DC	1.5 MEG.
3	0V.	0Ω	0V.	0Ω
4	-.9V.DC	2 MEG.	0V.	0Ω
5	0V.	0Ω	-8V.DC	380 KΩ
6	63V.DC	200 KΩ	135V.DC	400 KΩ
7	6.6V.AC	1Ω	6.6V.AC	1Ω
8	280V.DC	180 KΩ	0V.	0Ω

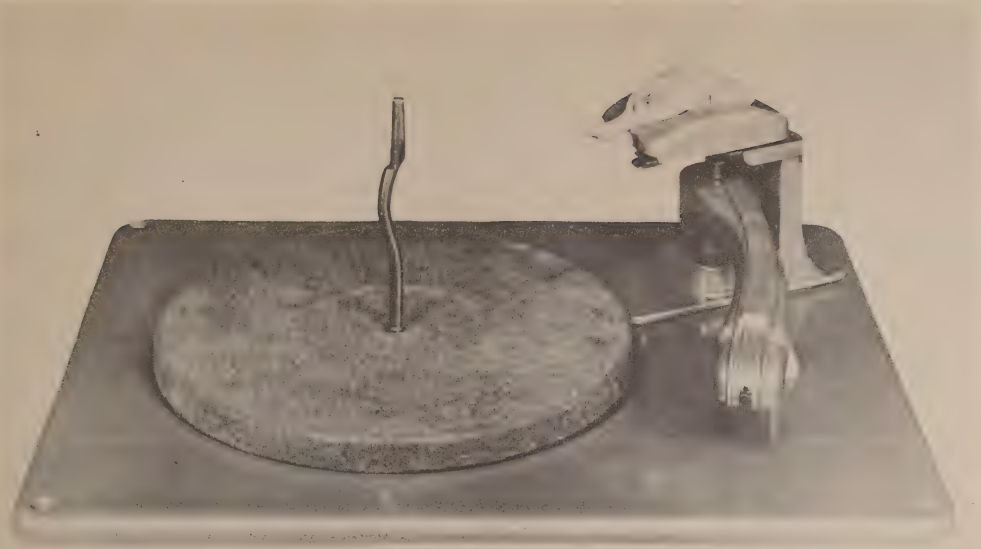
Pin No	6K6GT Volt	6K6GT Res	6K6GT Volt	6K6GT Res
1	0V.	0Ω	0V.	0Ω
2	0V.	0Ω	0V.	0Ω
3	280V.DC	180 KΩ	295V.AC	740Ω
4	280V.DC	180 KΩ	0V.	INF.
5	-8.8V.DC	540 KΩ	295V.DC	780Ω
6	0V.	INF.	0V.	INF.
7	6.6V.AC	1Ω	6.6V.AC	1Ω
8	0V.	0Ω	280V.DC	180 KΩ

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

4610-36

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



TOP VIEW

GENERAL INFORMATION

The Model C200 is a single-post record changer designed to play automatically twelve 10-inch or ten 12-inch records, not intermixed. The last record will be repeated until the changer is turned off. The motor is designed to operate at 105-125 volts, 60 cycles.

Manufactured by CRESCENT INDUSTRIES, 4140 WEST BELMONT AVENUE, CHICAGO 41, ILLINOIS

THIS MODEL HAS BEEN USED IN POSTWAR PRODUCTION BY THE FOLLOWING MANUFACTURERS:

RCA-Victor	Camden, N. J.
The Hallicrafters Co.	Fifth & Kostner, Chicago, Illinois
The John Meck Industries	35 E. Wacker Drive, Chicago, Illinois
Musitron Company	233 W. Erie, Chicago, Illinois
Dearborn Industries	122 W. Hubbard St., Chicago, Illinois
Union Radio Co.	328 S. Paulina St., Chicago, Illinois

OPERATING INSTRUCTIONS

To set for correct size, turn the record support assembly so the desired number faces the turntable. To change from 12-inch to 10-inch records, turn the entire assembly clockwise. To change from 10-inch to 12-inch, rotate the assembly counterclockwise.

Load the record changer and set the record clip so that it rests on the top record. Start the turntable rotating and press down on the reject button or push down on the pickup arm if it is setting on the arm rest. The entire stack of records will be played automatically. Any record may be rejected by pressing the reject button.

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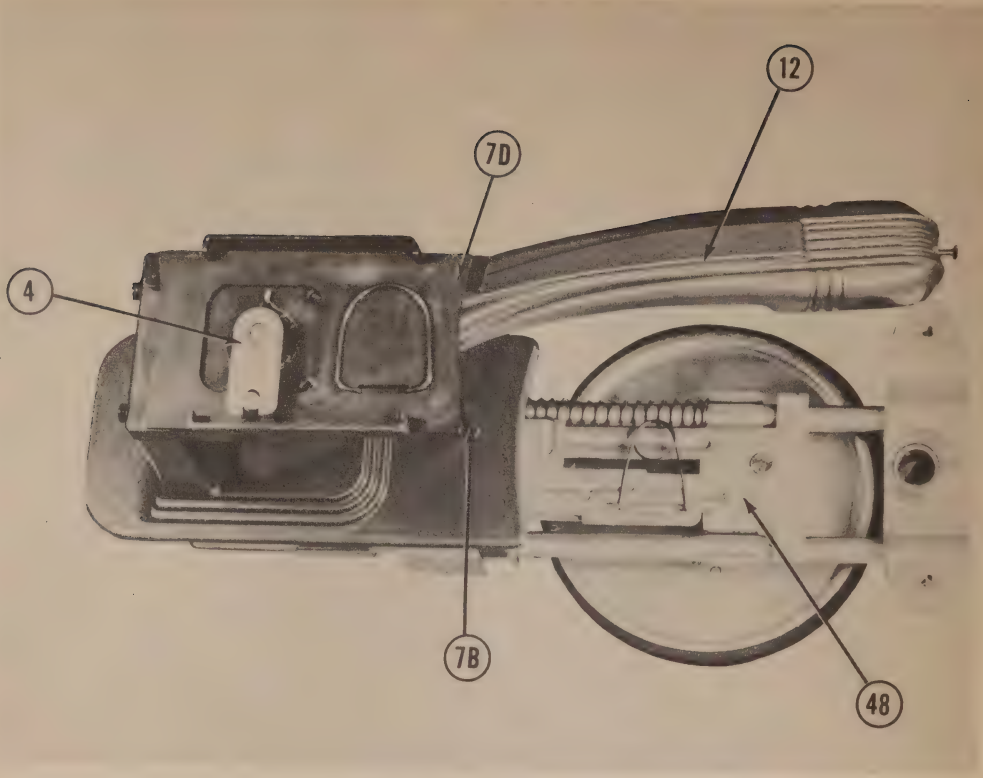
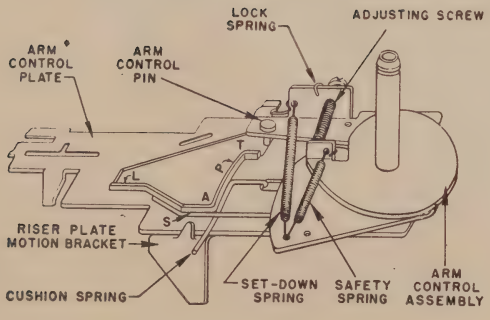
CRESCENT
MODEL C200

CRESCENT
MODEL C200



CHANGE MECHANISM—TOP VIEW



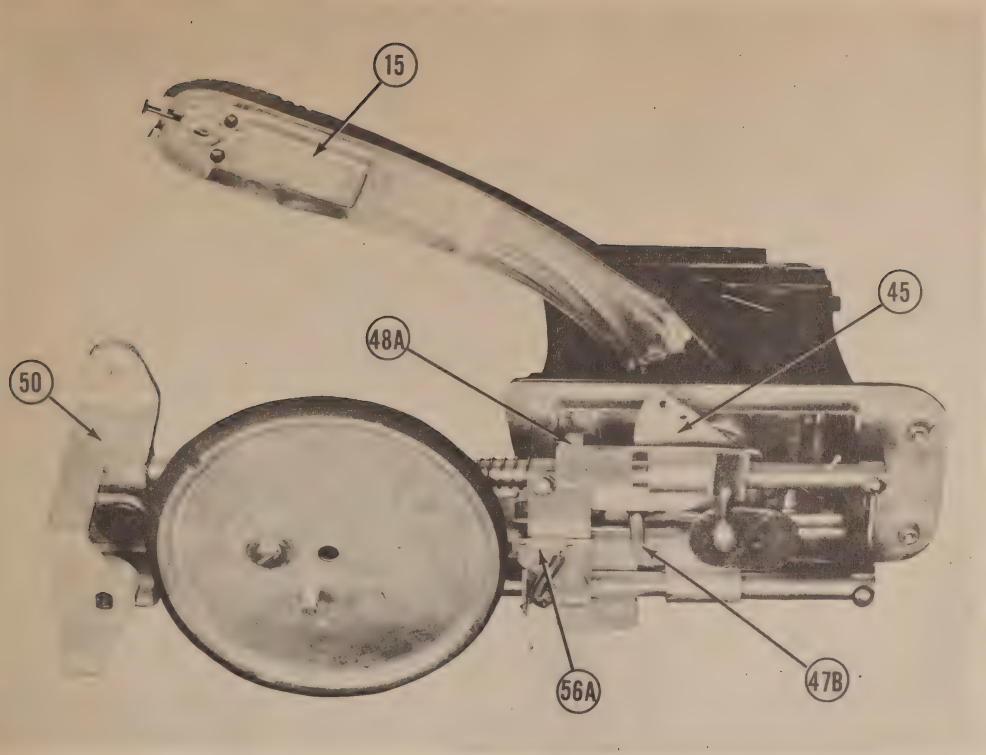
THE CHANGE CYCLE

As the tone arm moves into the eccentric groove of the record, the arm control pin (45B) moves along the track, as indicated at (P), and into the recessed position (T), or trip point. This allows the arm control plate (47) to slide forward toward the centerpost. As the control plate slides forward, the stop tab (47A) is moved away from the reject catch (60A) on the eccentric cam (60). The eccentric cam is then pulled over by the eccentric cam spring (51) until the rubber tire makes contact with the knurled roller (52) on the turntable shaft. As the knurled roller rotates the eccentric cam, the riser plate (48), which is attached to the eccentric cam, is pushed back along the guide rods.

As the riser plate travels backward, the push-off cam and shaft assembly (61) rides along the inclined track (48C) of the riser plate. By this action, the push-off cam and shaft assembly is pushed downward. As a result, the pickup arm lift (13) pushes against the arm lift bearing pin (18) causing the pickup arm to rise and clear the record.

The riser plate tab (48A) now contacts the arm control assembly (45), swinging the pickup arm away from the centerpost and clear of the edge of the record. As the riser plate continues backward, the riser plate motion bracket (48B) contacts the push-off cam and shaft assembly (61). This action causes the push-off arm (4) to move the push plate (7D), dropping a record to the turntable.

During the second half of the change cycle, the riser plate is moved back toward its normal position by the compression spring (49). This allows the push plate (7D) and the push-off arm (4) to return to their normal positions. As the riser plate tab (48A) moves toward the center, the arm con-



CHANGE MECHANISM—BOTTOM VIEW

trol assembly (45) is drawn back by the set-down spring (44), positioning the pickup for set-down. At this point, the push-off cam and shaft assembly (61) rides down the inclined track (48C) of the riser plate (37). This lowers the pickup arm on to the record. As the eccentric cam, aided by the eccentric cam spring (51), completes its revolution, the rubber tire of the cam moves away from the knurled roller (52). The reject catch (60A) then comes to rest against the reject arm and the stop stud (47A) of the arm control plate (47). This completes the change cycle.

REJECT MECHANISM

When the reject button (28A) is pressed, the reject lever (58A) pulls the reject trigger wire which, in turn, pulls the reject arm (56A) from behind the reject catch (60A). The eccentric cam (60) is then pulled against the knurled roller (52) by the cam spring (51), thus starting the change cycle.

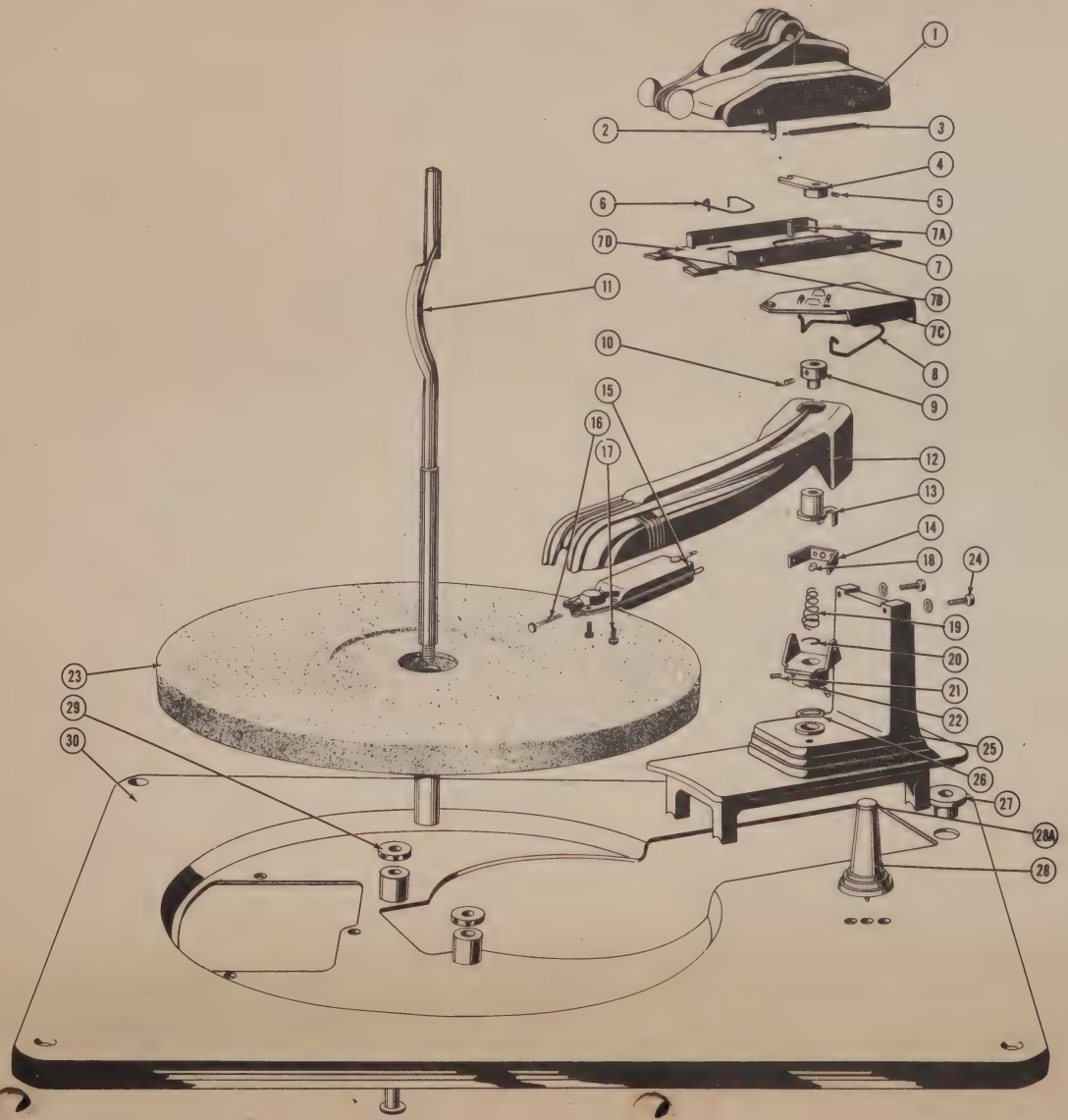
SET-DOWN POINT

During the early part of the change cycle, the arm control plate (47) has moved away from the centerpost until the size change stop (47B) reaches the cam (61A). When the short radius of the cam (61A) is nearest the size change stop (47B), the arm control pin (45B), through the motion of the arm control assembly (47), will then ride along the "L" portion of the control track, thus positioning for 10-inch setting.

When the cam (61A) presents its long radius to the size change stop (47B), the arm control pin (45B) will then ride in the "S" portion of the track, positioning for 12-inch setting. As the pick-up arm moves back toward the record during the second half of the cycle, it will be stopped when the bracket (45A) reaches the adjusting screw (41). How far the arm moves before being stopped depends on whether the arm control pin has been riding on the "S" or the "L" portion of the arm control track.

ADJUSTING SET-DOWN AND TRIP POINTS

This changer is designed so that the 10-inch set-down, the 12-inch set-down, and the trip point are simultaneously adjusted in a single operation. Turning the adjusting screw (41) clockwise will move the set-down position farther from the centerpost.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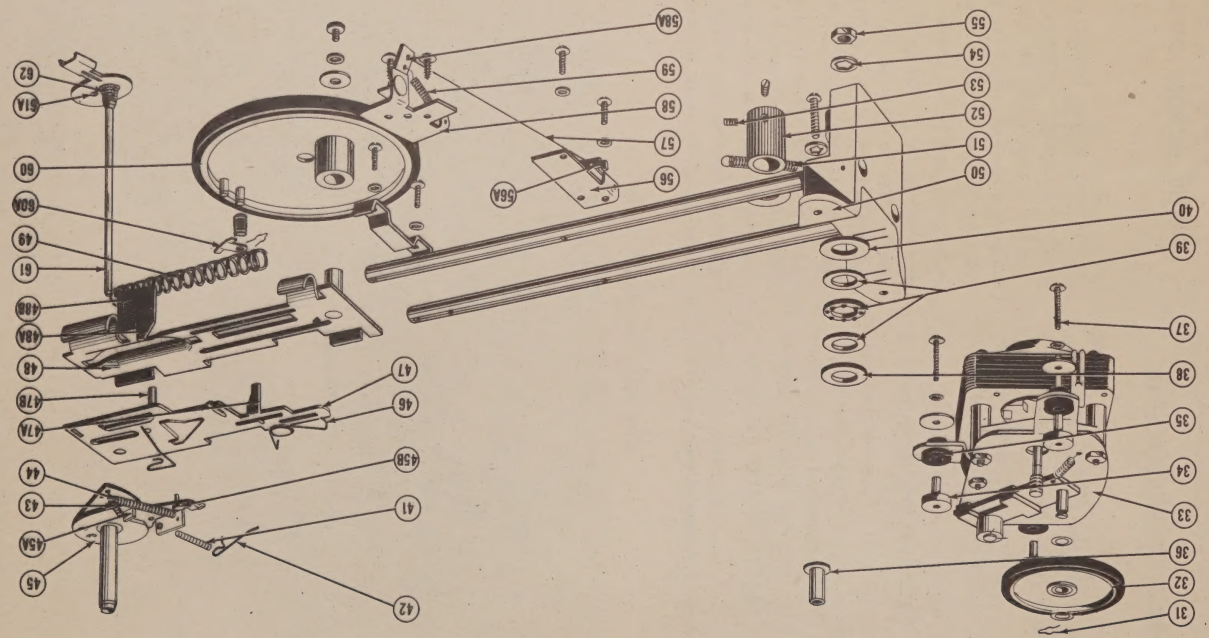
58A
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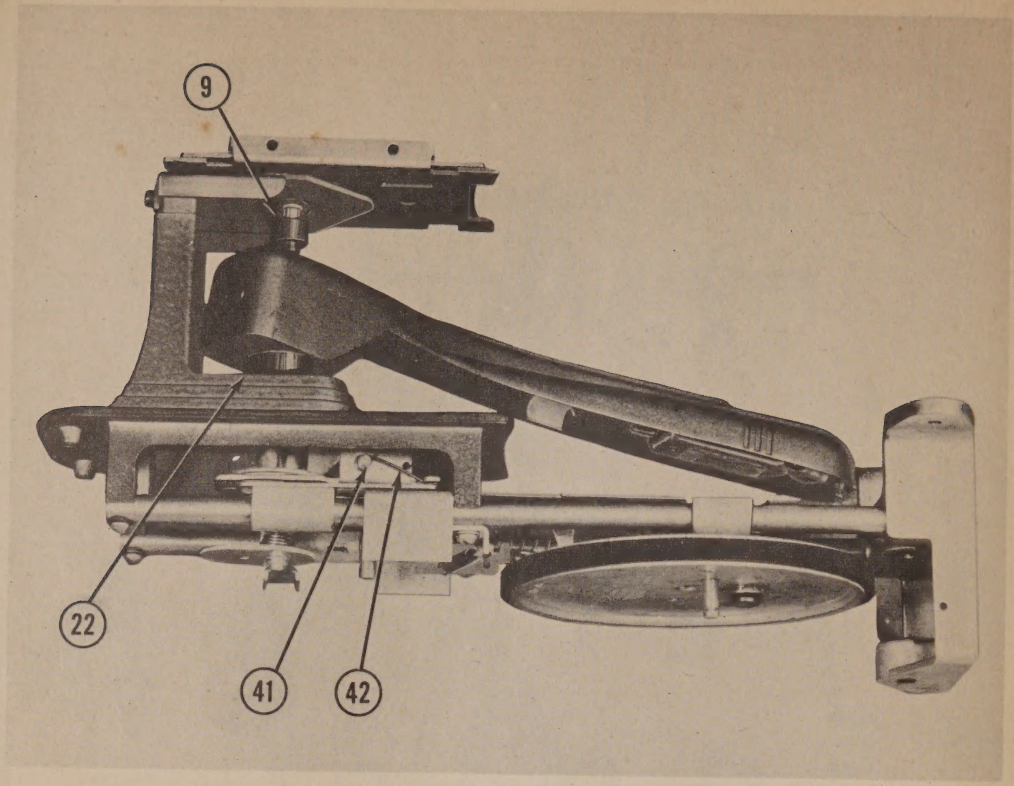


CHANGE MECHANISM—SIDE VIEW

The set-down point when using a straight shank needle will differ slightly than when using an offset shank needle. If the type of needle to be used is known, the following settings are recommended for each type, measuring from the side of the centerpost to the needle: 4 21/32″ for the 10-inch set-down point, 5 21/32″ for 12-inch set-down point, and 1⅝″ for the pickup or trip point.

If it is not known which type of needle is to be used, the following setting is suggested: using a straight needle, measure from the side of the centerpost to the needle, 4⅝″ for 10-inch set-down point, 5⅝″ for 12-inch set-down, and 1 19/32″ for the trip point. Adjustments should be made at one of the set-down points rather than at the trip point.

RE-POSITIONING PICKUP ARM SUPPORT ASSEMBLY

1. Adjustment is made by turning adjusting screw (41) clockwise as far as it will go; then turn back two full turns.

2. Place a 12-inch record on the turntable.

3. Loosen the two set screws in pickup arm support assembly (22).

4. With the changer out of cycle, move the arm control assembly (45) outward as far as it moves freely. In this position, the arm control pin (45B) will be located at point "A" on the track of the arm control plate (47).

5. Place the pickup arm so that the needle rests in the first playing groove on the 12-inch record.

6. Tighten the two set screws in the pickup arm support assembly (22).

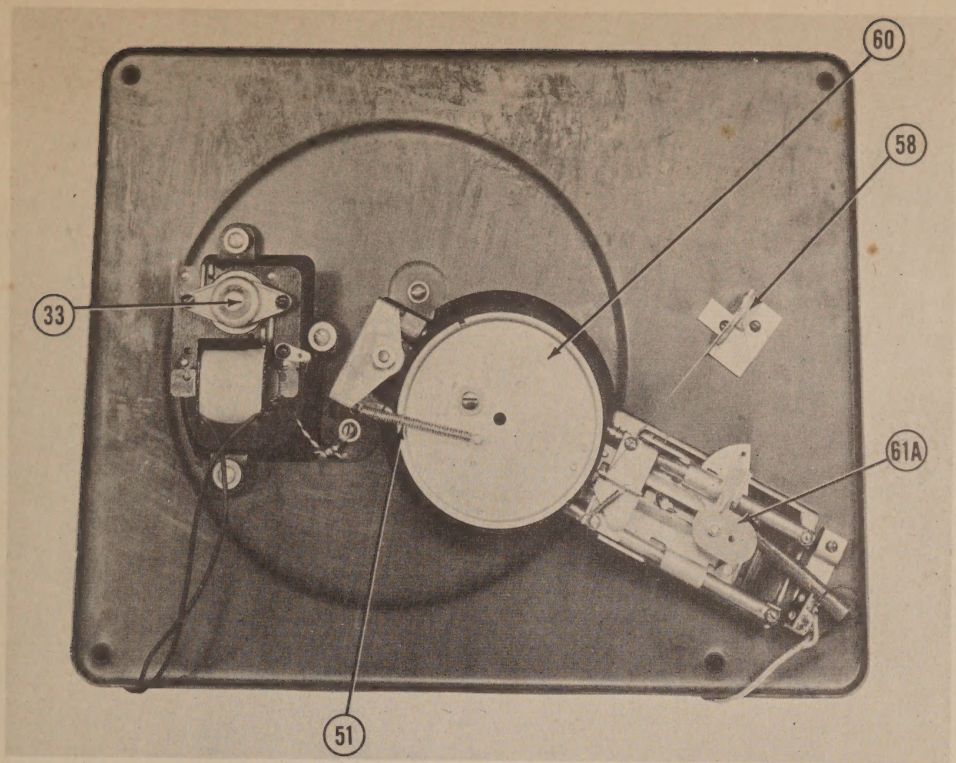
7. Make final set-down adjustment as described in the paragraph on adjusting set-down and trip points.

RE-POSITIONING PUSH-OFF ARM

If the set screws in the push-off arm are loose, or if the push-off arm (4) has been removed, it may be adjusted as follows:

1. Rotate the record support to the 10-inch position. Remove the push-off arm (4).

2. Manually slide the push plate (7D) over the ro-



BOTTOM VIEW

tating plate (7B) until a piece of metal 3/32" in diameter or an 8/32" Bristo wrench can be inserted into the opening at the front of the center slot in the push plate. If the procedure is faulty for both 10-inch and 12-inch records, vary the spacing slightly and repeat the procedure.

3. Put the changer into cycle and manually rotate the turntable until the riser plate (48) has traveled to a position farthest away from the centerpost.

4. Position push-off cam and shaft assembly (61) so that it is held tightly against riser plate motion bracket (48B).

5. Put the push-off arm in position, leaving about 1/16" clearance between top of the push plate and the push-off arm.

6. Tighten the set screws in the push-off arm.

PICKUP ARM HEIGHT ADJUSTMENT

The pickup arm height should be adjusted so that, without a needle in the cartridge and with a single record on the turntable, the pickup arm will be 1/32" above the record. The arm height may be adjusted by means of the lift adjusting collar (9). As the collar is moved down, the arm is raised, and vice versa. Adjust as follows:

1. Be sure the changer is out of cycle.

2. Lift the pickup arm and be sure the arm lift (13) is positioned properly over the lift pin (18).

3. Remove needle and place pickup on the turntable near its edge.

4. Loosen the set screw in the lift adjusting collar (9).

5. Remove slack by pushing up on the push-off cam and shaft assembly (61). Do not compress the arm lift shaft spring (62).

6. Using a No. 6-32 Bristo wrench, loosen the set screw and slide the lift adjusting collar (9) down until it is snug against the pickup arm lift (13).

7. Tighten set screw in the lift adjusting collar.

8. Check height. If still incorrect, it may be necessary to repeat the adjustment. Before doing so, check the shaft (61) for nicks and burrs made by the set screws.

PARTS LIST

Ref. No.	Part No.	DESCRIPTION
1	G400A13	Cover Assembly
2	405A4	Spring
3	414A4	Spring Rod
4	G400A66	Push-off Arm Assembly
5	1A44-38	Set Screw No. 6-32 x 3/16
6	405A38	Spring
7	G400B68	Head Assembly
7A		Push Plate Pin (Part of 7)
7B		Rotating Plate (Part of 7)
7C		Head Mounting Plate
7D		Push Plate (Part of 7)
8	405B18	Spring
9	402A57	Lift Adjusting Collar
10	1A44-38	Set Screw (Bristo Head No. 6-32 x 3/16")
11	G400B21	Centerpost
12	G400B93	Pickup Arm
13	G400A86	Pickup Arm Lift Assembly
14		Pivot Spring (Part of 12)
15	409A3 409A2 409A1	Pickup Cartridge—Interchangeable
16	402A43	Needle Screw
17	42-250-C2-47	Screw (Fil H.M.S. No. 4-40 x 1/4")
18		Arm Lift Bearing Pin (Part of 12)
19	405A46	Brake Spring (5 turns)
20	405A37	Retaining Ring
21	1A44-38	Set Screw (Bristo Head No. 6-32 x 3/16")
22	G400A73	Pickup Arm Support Assembly
23	A400B7	Turntable
24	65-312-C2-47	Screw (B.H.M.S. No. 6-32 x 5/16")
25	G400C11	Base
26	405A27	Spring Washer
27		Rubber Grommet, Large
28	G400A8	Arm Rest Assembly
28A	403-B8-4	Reject Button
29	406-A3	Rubber Washer
30		Base
31		Hairpin
32		Idler Wheel
33	407-B1	Motor, Complete—Motors 407-B2, 407-B3, and 407-B4 are interchangeable with 407-B1

Ref. No.	Part No.	DESCRIPTION
34		Motor Mounting Spacers
35	406-A2	Rubber Grommet
36		Metal Spacer
37	60-875-C2-2	Screw (R.H.M.S. No. 6-32 x 7/8")
38	412A1	Cork Washer 3/32" thick
39	415A2	Thrust Bearing Assembly (Replace as a unit)
40	412A9	Cork Washer 3/64" Thick
41	402-A60	Adjusting Screw
42	405A44	Lock Spring (set-down adjustment)
43	405A41	Safety Spring
44	405-A49	Set-Down Spring
45	G400A84	Arm Control Assembly
45A		Bracket (Part of 45)
45B		Arm Control Pin (Part of 45)
46	405A43	Trip Spring
47	G400A112	Arm Control Plate
47A		Stop Tab (Part of 47)
47B		Size Change Stop (Part of 47)
48	G400A88	Riser Plate Assembly
48A		Riser Plate Tab (Part of 48)
48B		Riser Plate Motion Bracket (Part of 48)
48C		Inclined Track
49	405A9	Spring
50	G400B7	Turntable Mounting and Guide Rod Assembly
51	405A47	Spring, Eccentric Cam
52	402A5	Knurled Roller
53	1A44-13	Set Screw (Bristo No. 8-32 x 1/8)
54	3B1-29	Lockwasher, Split (1/4" Diameter)
55	402A41	Hex Nut (1/4"-20)
56	G400A116	Reject Mounting Plate and Arm Assembly
56A		Reject Arm
57	414-A12	Reject Trigger Wire
58	G400A115	Reject Lever Assembly
58A		Lever (Part of 58)
59	405-A25	Reject Lever Spring
60	G400A117	Eccentric Cam and Line Assembly
60A	401-A97	Reject Catch
61 61A 62		Arm Lift Shaft Push-off Cam Spring } Furnished as an assembly only—Part No. G400A98

PARTS SHOULD BE ORDERED FROM YOUR DISTRIBUTOR